OIL SPILL RESPONSE IN THE GREAT LAKES

(101-83)

HEARING

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES

OF THE

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

SEPTEMBER 21, 1990, IN GRAND HAVEN, MI

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OIL SPILL RESPONSE IN THE GREAT LAKES

FRIDAY, SEPTEMBER 21, 1990

House of Representatives,
Subcommittee on Water Resources,
Committee on Public Works and Transportation,
Grand Haven, MI.

The subcommittee met, pursuant to notice, at 9:10 a.m., Grand Haven Community Center, 421 Columbus Street, Grand Haven, Michigan, Hon. Nowak presiding.

Present. Representatives Nowak, Upton, and Paxon.

Mr. Nowak. This subcommittee will come to order.

This morning, the Subcommittee on Water Resources meets to receive testimony concerning oil spill prevention and response efforts in the Great Lakes. The potential damage that could be caused by an oil spill in the Great Lakes system is tremendous.

While tankers the size of the *Exxon Valdez* do not operate on the Great Lakes, the closed nature of the hydrological system and reliance by area residents on the Lakes as a drinking water resource could spell potential disaster, even with a spill a fraction of the size of the one that occurred in Prince William Sound.

Residents of the Great Lakes region have been aware of this vulnerability for some time. In the early 1970s, the United States and the Canadian Governments developed coordinated oil spill response strategies. The Great Lakes Water Quality Agreement supports this contingency plan and contains several other provisions relating to oil spill prevention and response.

With the spill in Alaska, the increased number of spills in the Great Lakes region between 1987 and 1988, many of the area's, State and regional organizations have taken a closer look at our safety practices and clean-up strategies. The Oil Pollution Act of 1990 contains a number of provisions designed to reduce the potential for spills and to improve the effectiveness of response efforts. Several of these were included in response to the concerns raised by the Great Lakes maritime experts and the regional government officials. We will hear testimony from our witnesses today on their assessment of the current prevention and response efforts and how the new provisions of the Oil Spill Pollution Act will fit in with ongoing contingency planning.

I am pleased to have testifying before us representatives of the Federal Government, the states, the maritime industry and the environmental community, all of whom have valuable expertise to share with us on the Great Lakes oil spill response and prevention.

Before we begin with our first witness, I wish to thank my colleague, Congressman Fred Upton, who represents the fourth district, and acknowledge his great interest in this matter. He is a member of our subcommittee and has worked long and hard on these problems.

I also would like to yield to my Great Lakes colleague at this point for whatever remarks he would like to make.

Mr. UPTON. Thank you, Mr. Chairman.

As members of the Water Resources Committee, we have just returned yesterday from a tour of the wreckage of the Jupiter in Bay City, which was in Grand Haven only three weeks ago. During today's hearing, I hope some of our panelists will be able to shed some light on the investigation of what went wrong in that accident and how well the state and industry responded.

Although the Jupiter accident did not spill large amounts of oil into the waters of Lake Huron, it did demonstrate that the Great Lakes are not immune to the potential of a major oil spill.

The accident also shows the need for adequate preparation for worst case scenarios within the Great Lakes. Because the Lakes are truly a great national resource for millions of Americans, we cannot allow a future spill to catch us less thankfully prepared.

Now that President Bush has signed into law the Oil Spill Prevention and Response Act, we must focus on how this law will be implemented by the Coast Guard and other Federal agencies.

In the coming months, many important decisions will be made on how best to protect our Great Lakes from the tragic possibility of a major oil spill. In addition, the Coast Guard will begin its process of selecting a site for an oil spill response team that will respond to spills within the Great Lakes Basin.

Given the importance of the decisions that must be made, it is fitting to evaluate why the Great Lakes are considerably more sensitive to the effects of an oil spill than are ocean coasts.

First, of course, the Lakes are a relatively closed system. So, spilled oil cannot simply blow out to sea, wash away, or be dispersed by a larger body of water. Pollutants can linger in the Lakes for generations. The water retention time in Lake Michigan, for example, is 99 years. Clearly, a large spill in the Upper Great Lakes would have disastrous long-term consequences.

Furthermore, the Great Lakes are a source of fresh water for much of North America. They contain ninety-five percent of the United States' fresh surface water and about eighteen percent of the world's fresh water supply. Twenty-five million Americans depend on this great basin for fresh water to drink.

Along with the environment, spills in the Great Lakes threaten this drinking supply. In addition, the many currently-used techniques and substances suitable for cleaning up ocean spills could in fact seriously endanger public health if used on the Great Lakes.

Because seldomly we hear about large oil spills in the Great Lakes, it is easy to under-estimate the risk of a major spill. We should remember, however, that in 1988, roughly 81 million barrels of hazardous wastes and petroleum products were shipped via the Great Lakes. Add to this the millions of barrels stored at nearshore facilities, and you have a potential for a major spill any day of the year and at any place in the Great Lakes.

On a final note, it is important to remember that our demand for imported oil has increased in the past decade. With that comes an increased likelihood of oil spills. Once again the current events in the Middle East have made us realize the importance of restraining the amount of oil we import and ship in our marine environment. These current affairs make a strong case for renewing our long-stalled efforts to conserve energy.

This means we need to pursue a serious nationwide commitment to learning and implementing conservation methods in our homes as well as in our businesses. While we all regret the Jupiter tragedy, perhaps there are some lessons to be learned from that incident.

If there does exist a silver lining, it is that we may improve our conservation efforts and our ability to safely transport and store oil around the Great Lakes.

[The prepared statement of Mr. Upton follows:]

STATEMENT OF CONGRESSMAN FRED UPTON

BEFORE THE WATER RESOURCES SUBCOMMITTEE OF THE
PUBLIC WORKS AND TRANSPORTATION COMMITTEE
U.S. HOUSE OF REPRESENTATIVES

HEARING ON OIL SPILLS IN THE GREAT LAKES
SEPTEMBER 21, 1990
GRAND HAVEN, MICHIGAN

As members of the Water Resources Subcommittee, we have just returned from a tour of the wreckage of the M.V. Jupiter in Bay City, Michigan. During today's hearing I hope some of our panelists can shed some light on the investigation of what went wrong in that accident and how well the state and industry responded.

Although the Jupiter accident did not spill large amounts of oil into the waters of Lake Huron, it does demonstrate that the Great Lakes are not immune to the potential of a major oil spill. The accident also shows the need to adequately prepare for worst case scenarios within the Great Lakes. Because the Lakes are a truly great national resource for millions of Americans, we cannot allow a future spill to catch us less prepared.

Now that President Bush signed into law the Oil Spill Prevention and Response Act, it is appropriate that we focus on how this law will be implemented by the Coast Guard and other federal agencies. In the coming months, many important decisions will be made on how best to protect our Great Lakes from the tragedy of a major oil spill. In addition, the Coast Guard will begin its process of selecting a site for an oil spill response team that will respond to spills within the Great Lakes basin.

Given the importance of the decisions that must be made, it is fitting to evaluate why the Great Lakes are much more sensitive to the effects of an oil spill than our ocean coasts.

First, the Lakes are a relatively closed system, so spilled oil cannot simply blow out to sea, wash away or be dispersed by a larger body of water. Pollutants can linger in the Lakes for generations. The water retention time in Lake Michigan, for example, is 99 years. Clearly, a large spill in the upper Great Lakes would have long-term catastrophic consequences.

Furthermore, the Great Lakes are a source of fresh water for much of North America. The Great Lakes contain 95 percent of the United States' fresh surface water and about 18 percent of the world's fresh water supply. This great basin of fresh water provides drinking water for 25 millions of Americans. Spills in the Great Lakes threaten not only the environment, but also the drinking supplies of millions. In addition, the many currently used techniques and substances suitable for cleaning up ocean spills could seriously endanger public health if used on the Great Lakes.

Because we seldom hear about large oil spills in the Great Lakes, it is easy to underestimate the risk of a major spill. We should remember, however, that in 1988 roughly 81 million barrels of hazardous waste and petroleum products were shipped on the Great Lakes. Add to this millions of barrels stored at near-shore facilities and you have the potential for a major spill any day of the year, any place in the Great Lakes.

On a final note, it is important to remember that our demand for imported oil has increased in the past decade and with that comes the increased likelihood of oil spills. The current events in the Middle East have made us once again realize the importance of restraining the amount of oil we import and ship in our marine environment. These current affairs makes a strong case for renewing our long stalled efforts to conserve energy. This means a serious commitment to learning and implementing conservation methods in our homes as well as businesses across the country.

While we all regret the Jupiter tragedy perhaps there are some lessons to be learned from that accident. If there is any silver lining it is that we may improve our conservation efforts and our ability to safely transport and store oil around the Great Lakes.

NEWS
from Congressman Fred Upton
4th District, Michigan

For Release:
IMMEDIATE
SEPTEMBER 11, 1990

Contact:
LYNN SACHS
(W)202/225-3761
(H)202/333-4456

UPTON ANNOUNCES FURTHER DETAILS ON GRAND HAVEN OIL SPILL HEARING

(WASHINGTON) Congressman Fred Upton (R - St. Joseph) announced today that official from the U.S. Coast Guard and the Environmental Protection Agency will testify at a Congressional hearing in Grand Haven on the issue of oil spills in the Great Lakes.

The field hearing will also feature state and local leaders in government, environmental protection, scientific research, and the oil spill response industry. Among those testifying will be State Representative Al Hoekman (R-Grand Haven); Michigan Department of Natural Resources Director David Hales; John Eichenger, Past President, Michigan United Conservation Clubs; Gordan Zuverink, Past President, Michigan Steelhead and Salmon Fishermen's Association; and, Janet Vail, Research Associate, Water Resources Institute, Grand Valley State University.

The hearing, which will be open to the public, will be held on Friday, September 21, from 9:00 am to 12:00 noon in the Grand Haven Community Center, 421 Columbus Street, Grand Haven, Michigan.

"In light of the fact that President Bush recently signed into law the Oil Spill Prevention and Response Act, it is appropriate that we look at ways to address the potential of a major oil spill in the Great Lakes," Upton said in announcing the hearing. "Because the Great Lakes are especially sensitive to oil spills, it is essential to look closely at ways to protect the Lakes."

The recently enacted Oil Spill Act will help protect our coastal resources from the consequences of a major oil spill. Included in this legislation is a provision that will establish a regional response team in the Great Lakes area to plan for, and respond to, disastrous oil spills. Upton was a member of the conference committee assigned to work out the final details of this bill for the sole purpose of ensuring that one of these response teams would serve the Great Lakes.

"All of us in the Fourth District know that the Great Lakes region is truly one of America's greatest natural resources," Upton said. "It is important to protect our oceans but it is equally important to protect our Great Lakes.

"The Great Lakes are the world's largest freshwater resource. Millions of people depend on the Lakes for drinking water. Preserving the quality of water in the Great Lakes is not merely a regional issue -- but an issue of critical national concern."

-- END --

Mr. NOWAK. Fred, thank you very much.

Also with us is a new member of Congress, who has expressed great interest and has worked over his short time in Congress on this legislation and other legislation affecting the Great Lakes, Bill Paxon. His district, like mine, is a water-related district along Lake Erie, and just happens to be contiguous with mine. I welcome Bill to the meeting and any opening remarks he would like to make.

Mr. PAXON. Thank you very much, Chairman Nowak, my neighbor in Buffalo, and Congressman Upton, my neighbor on the 7th Floor of the Longworth Office Building in Washington. It is great to be here today, appreciate the invitation to participate in this hearing and to commend both members.

Chairman Nowak has been the preeminent leader in protecting the Great Lakes and our fresh water supply and certainly Congressman Upton in his position on this committee and his advocacy in Washington has been a great leader in this effort, also, over many, many years.

As Congressman Nowak has indicated, I represent an area of about 40 miles of Great Lakes shoreline in Erie County, just south of Buffalo, New York, and about 300,000 of my constituents rely on the water of the Great Lakes and specifically Lake Erie as their sole source of drinking water.

So, I have a great interest in anything that pollutes or potentially threatens that great fresh water supply.

This hearing, I think, will go a long way toward assisting us in our efforts to protect our fresh water of the Great Lakes and also to ensure that for generations to come, this great resource is available and accessible for future generations.

Mr. NOWAK. Bill, thank you very much.

We will have three panels. We have a statement also by the Minority Leader, Arlan Stangeland, which will be inserted in the record at this point.

[The prepared statement of Mr. Stangeland follows:]

STATEMENT OF HONORABLE ARLAN STANGELAND
GREAT LAKES OIL SPILL HEARING
WATER RESOURCES SUBCOMMITTEE
GRAND HAVEN, MICHIGAN
SEPTEMBER 21, 1990

MR. CHAIRMAN, THE WATER RESOURCES SUBCOMMITTEE MEETS TODAY IN GRAND HAVEN, MICHIGAN TO RECEIVE TESTIMONY ON OIL SPILL PLANNING AND RESPONSE IN THE GREAT LAKES AND THE OVERALL IMPLEMENTATION OF THE NEWLY-ENACTED OIL POLLUTION ACT OF 1990.

FIRST, LET ME COMMEND CONGRESSMAN FRED UPTON FOR HIS STRONG INTEREST AND LEADERSHIP IN OIL SPILL AND OTHER WATER QUALITY ISSUES FOR THE GREAT LAKES. WORKING WITH THE COMMITTEE LEADERSHIP, CONGRESSMAN UPTON HAS BEEN INSTRUMENTAL IN ORGANIZING TODAY'S HEARING AND FOCUSING CONGRESS' ATTENTION ON GREAT LAKES' PARTICULAR NEEDS. HE CERTAINLY DID THIS, AS WELL, DURING DEVELOPMENT OF FEDERAL LEGISLATION IN THE WAKE OF THE EXXON VALDEZ SPILL, PLAYING A KEY ROLE DURING CONFERENCE NEGOTIATIONS WITH OTHER CONGRESSIONAL AND ADMINISTRATION LEADERS.

TODAY'S HEARING IS PARTICULARLY TIMELY AND APPROPRIATE. FOR ONE THING, THE PRESIDENT SIGNED INTO LAW THE OIL POLLUTION ACT OF 1990 BARELY OVER A MONTH AGO. WE'RE VERY INTERESTED IN ITS IMPLEMENTATION AND WANT TO DO WHATEVER WE CAN TO ASSURE A SMOOTH, SUCCESSFUL, AND ADEQUATELY FUNDED TRANSITION. IN ADDITION, WE NEED TO EXPLORE THE CIRCUMSTANCES SURROUNDING THE SEPTEMBER 16, 1990 EXPLOSION AND FIRE AT BAY CITY, MICHIGAN (INVOLVING THE M/T JUPITER).

TODAY'S HEARING, JUST LIKE YESTERDAY'S SITE INSPECTION AT BAY CITY, SHOULD HELP. FROM OUR WITNESSES' TESTIMONY, WE CAN FOCUS ON CONTINUING NEEDS AS WELL AS NEW OR EMERGING PROBLEMS. WITH AGGRESSIVE OVERSIGHT, WE CAN HELP TO ENSURE

THE OIL POLLUTION ACT OF 1990 MAKES A REAL AND POSITIVE DIFFERENCE. OUR GOALS OF IMPROVED PREVENTION, RESPONSE AND COMPENSATION MEASURES CANNOT BE MET UNLESS ALL OF US -- AT THE FEDERAL, STATE, LOCAL, AND PRIVATE SECTOR LEVELS -- WORK TOGETHER.

MR. CHAIRMAN, THANK YOU FOR YOUR COOPERATION AND LEADERSHIP ON THIS ISSUE. I LOOK FORWARD TO REVIEWING TODAY'S TESTIMONY AND OVERSEEING THE SHORT-TERM AND LONG-TERM IMPLEMENTATION OF THE OIL POLLUTION ACT OF 1990.

Mr. **Nowak**. We would just like to set out the format. What we will do is take all of the testimony from the panelists and then have an opportunity to ask any questions that would be helpful. All of the statements that have been prepared will be entered into the record in their totality. A summary of the remarks that you prepared would be appreciated so we can move along because we have a long list of panelists. The entire transcript of the hearing, including your written statements, will be printed and distributed to all the members of the Water Resources Subcommittee, and the Full Committee. I am sure, people on the Merchant Marine Committee will be interested in this hearing testimony as well.

So, with that, let me turn to our first panelists, from the Coast Guard, Captain Robert W. Mason, who is the Chief of the Marine Safety Division, 9th District Coast Guard in Cleveland. Captain, if you will present your testimony at this time, we will then move on to all the others on this first panel.

TESTIMONY OF CAPT. ROBERT W. MASON, CHIEF OF THE MARINE SAFETY DIVISION, 9TH DISTRICT COAST GUARD IN CLEVELAND, COAST GUARD

Captain **Mason**. Thank you and good morning, Mr. Chairman and Members of the subcommittee.

I am Captain Bob Mason, Chief of Marine Safety for the 9th Coast Guard District.

Among other duties, I am responsible for the management of the Coast Guard's Marine Environmental Protection Program in the Great Lakes. Together with Mr. Bowden from EPA on my left, I am also the Cochairman of the Regional Response Team for Standard Region V.

I appreciate this opportunity to testify on behalf of the United States Coast Guard regarding the Oil Pollution Act of 1990.

Subsequent to the *Exxon Valdez* oil spill in March of 1989, tremendous concerns for our environment have developed. Earlier this year, both Houses of Congress unanimously passed legislation intended to address the oil pollution in particular. This legislation took more than a year to complete. That long period of time was certainly not due to a lack of interest. It reflected the complexity of the issues and the problems which are involved.

The Coast Guard anticipates the presidential signature of Corresponding Executive Orders which will task various Federal agencies with implementation of the Act. For my service, this will be a difficult, challenging assignment, made even more remarkable by its scope, multi-faceted objectives and the truly demanding time line.

The necessary regulations, threat assessments, contingency planning and equipment acquisition and deployment will require interaction with all levels of the government, industry, special interest groups, and the public. This is a process that must carefully weigh local input with operational considerations and genuine environmental risk.

The Coast Guard will preposition pollution response equipment in various regions in the country. Deployment of this equipment will be predicated on the level of future congressional appropriations. Should the appropriations fall short of the target, tough decisions will be made regarding the placement of this equipment.

The equipment sites will be based on potential pollution threat and environmental sensitivity of the region, and as the Great Lakes are viewed as being vulnerable to massive oil spills, the equipment may be allocated to facilitate a rapid response to the entire Great Lakes Basin.

The actual location for the pre-placement of the Federal spill response equipment within a general area will be based upon several factors, but not limited to suitable storage facilities, access to air, land and water transportation routes, and existing industrial pollution response resources. These are numerous factors which will be evaluated before a final decision is made.

The Oil Pollution Act of 1990 requires those companies involved in the storage and transportation of oil to develop response plans for the worst case oil spills. It also requires that they have equipment available to implement these plans.

To meet these requirements, we foresee a significant expansion of pollution response capabilities in the private sector, particularly those of the local and national spill response cooperatives. The private sector shares the responsibility in the development of viable pollution response capability.

The Federal area contingency plans will be updated as required by the Act. Area response committees will be formed, madeup of qualified personnel from Federal, state and local agencies, as appointed by the President. The committee will operate under the direction of the Federal On-Scene Coordinator for the area and each committee will develop an area contingency plan adequate to remove a worst—case discharge, investigate or prevent a substantial threat of such a discharge, and preplan joint response efforts.

The process of making membership appointments for the area committees has not yet begun. However, the Coast Guard Federal on-scene coordinators would welcome the names and particulars of prospective candidates.

The Oil Pollution Act of 1990 is an important and complex law. Implementation of prevention, contingency planning and response elements called for by the Act represent only a part of the Coast Guard's tasking. Executive delegation and congressional funding in the fiscal year 1991 budget are also important factors in this endeavor.

The acquisition and development of pollution response capabilities are essential to Federal preparedness. However, the critical role and responsibility of private industry in developing a primary response capability cannot be overstated.

Mr. Chairman, this concludes my prepared statement. I would be glad to answer any questions that you or other members of the subcommittee may have.

[The prepared statement of Captain Mason appears on p. 107.]

Mr. NOWAK. Thank you very much, Captain.

We will wait for all the testimony before asking questions, so we can get everybody's input at that time.

From the Environmental Protection Agency, we have Hans J. Crump-Wiesner, Deputy Director of Emergency Response Division, Office of Solid Waste and Emergency Response. He is accompanied by Bob Bowden, who is the Director of Emergency Response Division, Region V.

Welcome, gentlemen. Proceed as you desire.

TESTIMONY OF HANS J. CRUMP-WIESNER, DEPUTY DIRECTOR, EMERGENCY RESPONSE DIVISION, OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE, ENVIRONMENTAL PROTECTION AGENCY, ACCOMPANIED BY BOB BOWDEN, DIRECTOR, EMERGENCY RESPONSE DIVISION, U.S. EPA, REGION V

Mr. CRUMP-WIESNER. Good morning, Mr. Chairman, Members of the Subcommittee.

As you have heard, my chief responsibilities are in Washington, D.C. I am the National Program Manager for the Emergency Response Program in Washington, and the chief statutory authorities that we deal with are Superfund, the Comprehensive Environmental Response and Compensation Act, the Clean Water Act, and just the newly-passed Oil Pollution Act of 1990.

I appreciate this opportunity to discuss EPA's role in preventing and responding to spills and particularly here in the Great Lakes Basin. So, for my first remarks, I would like to just focus on EPA's oil prevention program.

Our primary responsibility for spill prevention in the Great Lakes Basin is administering the Oil Pollution and Prevention Program under section 311(j)(1)(c) of the Clean Water Act, which was also assumed by the new Oil Pollution Act, and it is focused primarily on non-transportation-related facilities.

Under this authority, EPA basically is requiring owners and operators of these non-transportation-related facilities to prepare what we call spill prevention control and countermeasure plans, SPCC plans.

The primary focus of those plans is to provide secondary containment. I am sure all of you have seen storage tanks when you fly in a plane over oil storage facilities Those facilities have secondary berms around storage tanks to prevent, of course, oil from reaching the navigable waters of the United States.

These plans have to be certified by a licensed professional engineer, and in terms of a little bit of history, on January 2nd, 1988, we had an incident in Pennsylvania, on the Monongahela River, where an Ashland oil tank collapsed. It was a catastrophic collapse. As a result of the aftermath of this incident, an interagency task force was set up to deal with preventing these types of incidents in the future.

The task force in its report made certain recommendations. The recommendations primarily deal with strengthening the current regulations that we have in place and providing for a notification system because we are not sure of all the facilities that are out there that are regulated under our regulations, and also to implement what we refer to as facility-specific oil spill contingency plans.

We are implementing those regulations currently in a two-phased approach. The first phase deals with strengthening the current regulatory language. We would not write regulations that way anymore in these days. This is a fairly oil regulation that was first published in 1973, and we are changing a lot of the regulatory language from should to shall to lessen the confusion about what is mandatory or not.

Also, it will have notification provisions in it that will give us a better handle on how many facilities are in fact out there that we regulate, and phase 2 will deal with contingency planning and the whole issue of site-specific plans that will need to be developed.

My testimony has some statistics in it about the numbers of spill prevention inspections that region V currently conducts. I am glad to report that there is an upswing in the number of inspections that we do as opposed to a couple of years ago.

Also, that we find in the Great Lakes Basin that the larger bulk storage facilities have a high rate of compliance with EPA's regulations, and with the smaller ones, the rate of compliance is less.

We see a clearer emphasis in the new law on spill prevention. The Coast Guard is given a wide range of responsibilities for regulations, studies and activities to accomplish prevention of future spills from vessels, and we clearly want to increase the number of inspections under our existing SPCC programs in the years to come.

And let me shift gears here from the prevention program to the contingency planning and spill response program. Cornerstone of all contingency planning for us, of course, is the National Contingency Plan. Without going into a lot of detail on what it contains, let me quickly summarize although, I am sure, some of you are familiar with the structure of the NCP.

It establishes three organizational levels. At the national level, you have the National Response Team. At the regional level, you have the RRTs, and first and foremost the guy who is on the front line is the On-Scene Coordinator.

At the NRT, EPA is the chair and the Coast Guard is the vice chairman. These bodies have primarily a planning, policy and coordinating function, and they also have a function to provide advice and technical assistance in a national incident of national proportions.

At the RRT level, we have currently 13 standing RRTs nationwide. There is not only Federal representation at the Regional Reponse Team level but you also have state and local representation. They are again a body that assists an OSC in a site-specific incident and they also have a planning and policy function. There are standing RRTs that routinely meet, and if the Regional Response Team (RRT) should exceed its capability, they can make a request to the National Response Team (NRT) for assistance.

Depending on the location of an oil spill or hazardous substance spill, either an EPA official or Coast Guard official is in charge. The Coast Guard, of course, has jurisdiction for spills in the coastal zones, and the Great Lakes ports and harbors. In the coastal zone, EPA acts in a support role to the Coast Guard. EPA would normally just get involved in Great Lakes Basin in those areas which are inland of the coastal zone and would, of course, lead the response in the inland areas.

The OSC is the Federal official in charge. He is the man that calls the shots, and he has all the authority to make those decisions.

I am glad to report that before the enactment of the Oil Pollution Act of 1990, we worked under the so-called 311(k) Pollution Fund which is authorized in Section 311 of the Clean Water Act. When the new Act was passed, the authority for funding shifted from the Oil Pollution Act Fund under 311(k) of the Clean Water Act to the new Oil Pollution Liability Trust Fund.

All the delegating instruments have been put in place and there was no discontinuity in our ability to respond to oil spills. We have access to the new fund and an EPA OSC can work with a Coast Guard district office to have access for funding in the event that becomes necessity.

We have participated recently in drills and simulation exercises. Bob Bowden, my colleague from Region V, tells me that last week, they participated in a major exercise by the name of Canuslak 90. Lots of parties were involved, including the U.S. Coast Guard, Canadian Coast Guard, State of Michigan, other Federal agencies and Regional Response Team. This is the first major simulation exercise that I am aware of since the new Oil Pollution Act was passed.

Enhanced contingency planning is a key initiative of the new Oil Pollution Act of 1990. The President is required to establish area contingency plans and also area commissions or committees that oversee the preparation of the plan under the direction of the on-scene coordinator. The statute provides two time-limits that the area commissions have to be established by February 18th, 1990. Area contingency plans, as the Captain has said, consider worst case discharge scenarios and take into consideration economic and environmental impacts and other such factors.

We have recently as a result of the *Exxon Valdez* incident examined our state of readiness and contingency planning across the country, including an analysis of the worst case scenario. The report to the President on the *Exxon Valdez* incident a nationwide analysis of our state of preparedness be undertaken.

The findings of the contingency plan review is about ready to be published, and the NRT will soon be reporting on the conclusions of that analysis.

The new law provides broader authorities, not only in the event when a spill is federalized. For example, the President also can direct Federal and state response actions in a spill of national significance.

For EPA's part, we will participating with the Coast Guard in developing criteria and procedures for inspecting response equipment, such as booms, the skimmers, and other equipment that may be used in the event of a response.

We have begun to implement that new Oil Pollution Act of 1990. In the agency, we have established work groups to deal with the different regulations and guidances and criteria that have to be written.

We also believe that because the regulatory process may be time consuming particularly with respect to issuing regulations on site-specific or facility-specific contingency plans, that EPA may need to issue interim guidance until those regulations are in place. We in EPA cannot wait until those regulations are finally published in the Federal Register, that we need to have an interim procedure to address contingency planning from facility-specific kind of operations.

In summary, I would just add that the Oil Pollution Act of 1990 expands the responsibilities of the public as well as the private sector. EPA is moving ahead in our program in these areas and we are committed to a prompt implementation of the Act.

I would also compliment Mr. Nowak and other subcommittee members who have worked so diligently in passing the new Act. It came as a complete surprise. We were told that the Clean Air Act had priority over the Oil Pollution Act of 1990, and we were stunned to have this new Act passed in August.

We hope in EPA that we can live up to the expectations of the members who worked so hard to get this new Act passed. It is by no means an easy task to pass such a complex and controversial piece of legislation.

This concludes my remarks this morning, Mr. Chairman.

[The prepared statement of Mr. Crump-Wiesner appears on p. 75.]

Mr. **Nowak**. Thank you very much.

We will now turn to the National Oceanic and Atmospheric Administration, Jay Rodstein, who is the Scientific Support Coordinator, Hazardous Materials Response Branch of the Great Lakes Research Lab.

TESTIMONY OF JAY RODSTEIN, SCIENTIFIC SUPPORT COORDINATOR, HAZARDOUS MATERIALS RESPONSE BRANCH, GREAT LAKES RESEARCH LAB, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Mr. **Rodstein**. I am actually, sir, with—I am not at the Great Lakes Environmental Research Lab. I am kind of a one-man unit in East Lansing these days. We used to be housed in Ann Arbor, but we moved to the other university just to kind of even things out there.

Mr. **Nowak**. Okay. He is a one-man lab which is equal to the Great Lakes National Research Lab.

Go right ahead.

Mr. **Rodstein**. Let me start off by describing NOAA's role in the national response system. Federal on-scene coordinators have a number of resources, special forces, available to them, and NOAA provides one of those and it is termed the "scientific support coordinator".

We have nine scientific support coordinators, other one-person shops, spread around the country, and we are generally assigned by Coast Guard district as that is our primary role, to look at coastal spills, spills into coastal areas.

I am the scientific support coordinator for the 9th and 2nd Coast Guard districts which cover the Great Lakes and the inland rivers. We are backed in a Seattle office and at other regional locations by inter-disciplinary groups that have a lot of experience in oil spill response and expertise in physical oceanography, meteorology, oil weathering dispersion, assessment of environmentally-sensitive areas, and information management.

We also coordinate and interpret scientific advice to the OSC from all sources, including all levels of government, universities, other private entities as well. When we do not work in a spill, when we are not at a spill, the SSC provides scientific assistance to regional response teams and to OSCs in contingency planning and response training.

Over the last ten years, we have responded to over 1,500 spills nationwide, approximately 100 of those were in the Great Lakes. Our goal is to provide the best scientific information in a timely manner to help the spill go and reduce environmental injury when we can do that.

In the Great Lakes, the environmental risks that we think are most significant are the water quality, fish and wildlife habitat, and in evaluating these risks, we look at the various sources. Those major sources are vessels that carry fuel as a cargo, and in the Great Lakes, that can mean as much as five million gallons of cargo on various tank vessels.

Also, any other cargo vessel or any other large vessel in the Great Lakes might be carrying as much as several hundred thousand gallons just as its own fuel, and, of course, the shore side facilities that these vessels service are also other potential sources that we are concerned about.

The types of products being transported here are a little different than the coastal zones. Only about three percent of the total petroleum cargo shipped on the Great Lakes are crude oils. Most of the Great Lakes crude is moved through pipelines, and that certainly is something we should be concerned about, although it has not been a major focus to this point, you know, particularly in light of the situations we have had in New York and the Pittsburgh area in the last year.

Refined products, which is predominantly what we find on the Great Lakes being shipped, are kind of mixed equally between gasoline, diesel fuels, and what we call distillates or heavier bunker C, heavier types of oils, and there are kind of good and bad points associated with those different types of oil. The gasolines are—have more toxic properties associated with them, where the bunkers and the heavier oils are more persistent in the environment and may remain for decades or longer, depending on the types of environments that they end up in.

So, each type of these refined products has its own toxic characteristics. Some are worse than crude oils, which is kind of what the focus has been in the coastal areas.

What types of environmental sensitivities do we have here? Well, primarily, as Mr. Upton mentioned, you know, Great Lakes drinking water is really our prime concern in terms of sensitive resource that could be affected by a spill. However, the fish and wildlife habitats are also significant, and in many cases, these very sensitive habitats are quite close to the shipping lanes, within yards of the shipping lanes in areas like the St. Clair Delta. So, again, those are at a great risk to be affected by spills into the Great Lakes waters.

Particular areas at risk, we have identified some areas, three different types of areas. One is the inter-connecting channels of the Great Lakes, the St. Mary's River, Detroit-St. Clair, St. Lawrence Rivers are those areas that we feel are most likely to—where an accident could occur, and that is most—primarily due to the danger of plying constricted waters, fast-moving waterways.

These areas have received extra attention for planning by the U.S. and Canada in our supplements to joint contingency plans. So, we have looked at those areas a little more carefully than some other areas which could be at risk, but in addition to those closed channels or restricted channels, we are also concerned about areas where there is high populations. Areas like at the south end of Lake Michigan, you know, the Chicago area, certainly Cleveland or Buffalo areas are areas where there are large populations that could be affected from the human health aspect, not only drinking water but fumes and explosion potentials.

But also we are concerned in even smaller areas, such as, you know, Upper Lake Michigan, areas like Travers City or Grand Haven, which serve as regional fuel distribution terminals. Those also are areas where sensitivity analysis is important, and we are not always as far advanced in that area as we would like to be.

I wanted to address a couple of ways in which risks may be reduced. Certainly they can be reduced by spill prevention as Mr. Crump discussed, but my organization kind of looks at once a spill happens, how can we improve our capability to respond effectively.

The scientific aspects of response in the Great Lakes do not differ all that much from how we respond to spills in the coastal areas. We have some of the same difficulties, limitations working with oil and ice, how to remotely sense data. However, in the Great Lakes, we face additional difficulties. Although we have got an outstanding regional scientific community, we have not been directed toward looking at spill control technologies, spill research in fresh water systems.

An interesting example of something that is on-going is the literature search that the American Petroleum Institute has recently undertaken, which is currently in process. They have been looking at what has been documented about oil spills into fresh water systems, and what they are finding is very little in the way of documentation. Most of what we do is sort of anecdotal. We think we saw something happen and we assume that that is going to happen the next time as well.

A particular example of how the research deficiencies affect response on the Lakes is clear to me at least in the philosophy for the use of biological and chemical agents. While Pacific and Gulf Coasts have actually used those types of agents in their waters and Atlantic Coast has pre-approved zones and is making headway in terms of planning for the use of those kinds of agents. We have concluded that the basis for the use in the salt water coast, the science that goes into determining how toxic these things might be has not been adequately studied for fresh water organisms and how these things would react in fresh water systems.

So, again, that is kind of an example of how scientific research has not necessarily been directed toward spill control technologies.

Another way that risk reduction can be achieved is by extending some of the existing knowledge of environmentally-sensitive areas. Again, the scientific community has identified what areas are sensitive or what areas are highly-productive. An extension of that, which has been prepared in many areas of the coastal United

States, and ninety percent of the U.S. coast and, in fact, it has been summarized and updated in many areas of the oceanic coasts, has only been completed for approximately twenty-five percent of the Great Lakes coast at this time.

There is a map attached to my prepared statement which shows the areas that have been mapped, and those are primarily those inter-connecting channels and a part of Lake Michigan, actually part of Lake Michigan that we are actually sitting in right now. That was not planned, by the way; we just happened to have it done that way.

How is NOAA going to change our activities as a result of the Oil Pollution Act of 1990? We see NOAA having a greater involvement in oil spill preparedness response and assessment of damages to natural resources. There are basically eight points, and I will just quickly go over those points that—the way in which NOAA is going to change our role.

One is we have been designated the lead agency in the development of damage assessment regulations; two, Federal natural resource trustees will have immediate access to funds to initiate damage assessment studies on scene during the early hours of the spill event, which has been kind of a problem in particularly the Alaska situation. There has been a lot of havoc about who is paying and how that data can be shared, things of that nature.

Three, the NOAA will also be represented on the committees to establish—or committees established pursuant to the Pollution Research and Development Program in Title VII of the new Act.

Four, the NOAA also will have a significant role in implementing the provisions of Title V, which address long-term assessments of Prince William Sound.

Five, the NOAA is going to be one of the consulting agencies to the U.S. Department of State in the review of the U.S.-Canada and Lake Champlain oil spill cooperative studies. Six, we are going to be involved in developing a fish and wildlife response plan that is required in the revised NCP.

Seven, we believe that the expanded use of the fund for monitoring of responsible party clean-ups will allow us to get more involved in the response to the spills. Eight, while not a new role, we expect that increased participation and consultation with OSCs and in preparation and review of contingency plans working with the newly-formed area committees, district response groups and the additional strike teams.

That concludes my prepared statements, and I would be happy to answer general questions when the time comes.

[The prepared statement of Mr. Rodstein appears on p. 112.]

Mr. NOWAK. Thank you very much.

We will now turn to the Fish and Wildlife Service, represented here by Daniel H. Bumgarner, Deputy Assistant Regional Director for Fisheries in Region III.

I believe you have someone to accompany you, too, Mr. Bumgarner. Would you introduce your associate?

TESTIMONY OF DANIEL H. BUMGARNER, DEPUTY ASSISTANT REGIONAL DIRECTOR OF FISHERIES, REGION III, FISH AND WILDLIFE SERVICE

Mr. BUMGARNER. Thank you, Mr. Chairman.

I am Dan Bumgarner, Deputy Assistant Regional Director of Fisheries for the U.S. Fish and Wildlife Service, North Central Region, and on my right is Mr. Dave Best of our East Lansing Field Office.

I appreciate the opportunity to be here today to discuss the impacts of oil spills on fish and wildlife and my agency's intentions in implementing the Oil Pollution Act of 1990.

The waters and related coastal ecosystems of these magnificent Great Lakes are recognized as being of outstanding value to fish and wildlife and various user groups. The diversity and abundance of fish and wildlife resources in the Lakes and their connecting channels is well known and documented.

Because of this great diversity and likely significant differences in the effects depending on geographic location and spacial extent, my testimony will focus on two levels of specificity relative to the effects of a major spill.

The first level focuses on some of the generic factors that are likely to be important in responding to a spill.

The second level focuses on some of the known effects of a major spill.

This first level involves consideration of five variables in order to recognize potential adverse effects on fish and wildlife resources. These five variables set the tone for the severity and duration of a major spill.

First, the type of oil or hazardous material is important because its physical and chemical properties influence toxicity, volatility, solubility and density.

Second, the vessel or facility type and design dictate volume and release potential.

Third, time of year is critical to determine potential fish and wildlife resources at risk.

Fourth, weather characteristics play an important role in wildlife effects, especially temperature and wind direction.

And, finally, hydrology plays an important role in determining potential effects because of surface and bottom currents as well as internal circulation of large embayments.

Life stages and social characteristics of species will also make a difference in a spill situation. Social species, such as migratory shore birds and colonial nesting birds, could receive considerable exposure. Solitary species, like owls and hawks, could receive insignificant exposure during most periods of the year. Exceptions could occur during peak migrations.

Threatened and endangered species, such as the bald eagle and piping plover, could be adversely exposed either directly or through oiled and re-oiled shorelines. For the piping plover, the loss of a few individuals may cause jeopardy to the entire population.

The second level of specificity involves some of the more noticeable and important site-specific concerns related to oil spills. Significant losses are known from the presence of oil pollution caused by historic point and non-point source discharges.

The Service has been involved in a characterization of some of these areas. Benthic invertebrates have been significantly reduced in numbers in the St. Mary's River, Detroit River and Indiana Harbor, to name the more serious situations. Oil from a major spill must be viewed as an additional insult to these situations.

Incremental effects of spilled oil will be important in areas already impacted by past spills and chronic discharges, making any rehabilitation more difficult and expensive.

Spills could also cause significant impact to populations of wildlife, particularly waterfowl, because of new attractions of forage organisms. For example, the zebra mussel. This is a new invading species which has taken a significant foothold in Lake St. Clair and Lake Erie.

Diving ducks, particularly scaup, are now utilizing zebra mussels as a forage source. So dramatic is their interest in these mussels that scaup have essentially changed their staging area on Lake St. Clair to take advantage of this food source.

Lake St. Clair appears to be particularly vulnerable to a situation such as this with thousands of waterfowl resting and feeding over a particular area.

Up until passage of this Act, roles and responsibilities for spill response have been identified under the Fish and Wildlife Service plan for discharge of oil and release of hazardous substances, and under Service regional response plans.

However, training to adequately execute these duties is critically needed by all of our personnel. Foremost among these training needs are hazardous substance spill response and safety training, wildlife care and rehabilitation, environmental sampling and damage assessments, and media and public relations aspects.

This deficiency in preparedness is due mostly to the lack of service personnel who have these issues to contend with as a major full-time duty. Existing personnel are primarily responsible for coordinating response to a spill and providing technical assistance to the on-scene coordinator.

Another need is the stocking of adequate containment and cleanup equipment for spills in an environmentally sensitive area. In certain situations, the pre-emptive attempt to isolate key habitats is the most effective way to protect trustee resources. Currently, we have no capability to isolate areas with booms and have no equipment that is stored exclusively for that purpose.

Traditionally, on-scene coordinators have placed a higher priority on various human health and water supply considerations when utilizing emergency response resources. This should not be viewed negatively regarding a response. It does, however, emphasize the potential for natural resource trade-offs during initial responses that could increase natural resource injuries and potentially greater costs in assessing damages to these resources.

In those instances where wildlife cleaning and rehabilitation is required, pre-designated personnel, equipment and facilities are necessary. The Service currently has minimal wildlife collection and cleaning equipment available in the Great Lakes vicinity.

Service personnel and groups and individuals which the Service may contact to rehabilitate migratory birds and other wildlife should receive training necessary for compliance with safety rules.

This Act increases the Service's responsibility and ability to deal with oil spills in three major areas. One, contingency planning and training; second, natural resources damage assessment and risk restoration; and, finally, research on oil spills.

Many activities covered by the new Act require increased participation by the Service within short statutory deadlines. Unfortunately, no funds have been appropriated or personnel added for these enhanced responsibilities, even though the new Oil Spill Liability Trust Fund is authorized to support these activities.

The one exception is that initiation of natural resource damage assessments requires no further appropriation. However, it is unclear how much of the $50 million appropriated for oil spill response and damage assessment is available to the Service.

Increased responsibilities for response to contingency planning include establishment of local area committees and development of area contingency plans which must contain significant new planning efforts for protection of sensitive environmental areas and protection, rescue and rehabilitation of fisheries and wildlife.

We understand that there will likely be 30 or more of these area committees and plans, each of which will require significant continuing involvement by our Service personnel. In addition, the national contingency plan is to be updated to include a fish and wildlife response plan.

Both the revision of the national contingency plan and development of the area contingency plans have statutory deadlines and will require considerable effort from the Service well in advance of the normal budgeting cycle. Our estimate is that between 20 to 25 personnel will be needed to do this planning.

The Act instructs the National Oceanic and Atmospheric Administration to prepare new damage assessment regulations for oil spills in consultation with the Service. The level of commitment by the Service for this work is still under review but will be very significant.

Several provisions in the new Act call for increased research on the effects of oil spills on natural resources to improve knowledge of restoration techniques and improved knowledge of the effect of dispersants on fish and wildlife.

The Service supports the call for additional work in these areas. Many agencies will be involved in developing this research and carrying it out.

The Service is carefully considering its new responsibilities and its need for meeting these responsibilities.

This ends my prepared testimony today, and I would be happy to respond to any questions you may have.

[The prepared statement of Mr. Bumgarner appears on p. 65.]

Mr. Nowak. Thank you very much, and thank you for all your work in preparing your statements.

Let me just ask a couple of beginning questions here. What I also plan to do is hold this record open for some period of time as we have the opportunity to review more closely the testimony and especially the testimony in combination with each other so we can get a clear picture of where we are going and how long it will take to implement these various aspects of the bill.

In general terms, what pollution response resources are now available in the Great Lakes area from industry or Canada?

Captain **Mason**. Mr. Nowak, I provided your staff member earlier this morning a copy of an index that was published by the Lake Areas Association, which was a joint effort of the contractors, the Coast Guard and Lake Areas to find out what equipment was available.

There are approximately 49 contractors currently available on the United States side and somewhat fewer on the Canadian side. Your new bill, however, will provide us for the first time the capability in the contingency plans for the operation of the vessels and the contingency plans for the operation of the shore-site facilities to require them to have equipment on site to meet the requirements of their contingency plan.

As you have seen the results of what occurred in Bay City, part of the long-term problems there were the fact that they had no equipment on site, and your bill will correct the majority of those problems.

Mr. **Nowak**. Just as an aside, we did have the opportunity before we came here, at the urging of Congressman Upton, to stop at Bay City and tour that site and see the ship listing in the river. There are many factors that hit me very vividly, starting with infrastructure in that area.

All of the oil storage areas were so close to the T dock off of which that boat was taking the oil. It seemed to me to be totally inadequate. What if that wind had been moving in a different direction? We were, it seemed to me, very lucky that the heat penetrated away from that oil tank farm. Hopefully as we go through these local assessments, we will be able to do something not only with the actual shipping, moving of oil and looking at the requirements for the transportation, but of the inter-connects to the storage facilities and the land around those areas. We are very fortunate that we had no extreme heat reach into that area. It is only 200 or 300 yards away from where that ship is sitting and listing right now.

With the passage of the Oil Pollution Act there are probably other pollution response improvements that can be made in the future because the act requires us to look at the whole infrastructure. We have really got to get that contingency plan to cover everything, including the basic infrastructure that that oil is stored in and is transported away from. Addressing basic infrastructure issues has to become part and parcel of the total planning effort.

Captain **Mason**. I might say, sir, that it is already becoming part. If I can expand a little bit on the Jupiter, in calendar year 1989, less than five percent of the oil that entered the water here in the Great Lakes came from commercial vessels, which shows that there is a good prevention, good working relationship between the Federal Government and the operators.

The very fact that the Jupiter happened, though, shows that one of these significant tragedies can occur. That was an approximately 400-foot vessel, carrying almost two million gallons of gasoline, which for one reason or another broke its mooring lines all except for one, broke its fueling hose and the resulting casualty occurred from finding a source of ignition, and all the cargo tanks in that vessel erupted in fire.

The first on-scene body was the local fire department, followed closely by the state and then the Federal Coast Guard. The provisions of the new bill were immediately placed into effect from the standpoint that we could immediately go into a monitoring mode rather than waiting to see if the responsible party took appropriate action or not.

We took immediate action to have people on scene, to supplement them with people from the national strike force, from other Coast Guard offices in the district, and to move fire-fighting equipment up here.

A joint effort was made by everybody to insure that that fire did not spread to the adjoining facilities, including not——

Mr. NOWAK. I am sure there was a joint effort. However if that wind had been blowing toward the tank farm, it probably would not have taken much more than an hour for that to really heat up and——

Captain MASON. Yes, sir, and that——

Mr. NOWAK [continuing]. I do not know what type of barrier would be adequate for that.

Captain MASON. That is why under the new bill, when we review the contingency plans, both the vessel and facility will be required to have certain response equipment.

Mr. NOWAK. I think that would be very helpful.

Let me turn to Fred Upton now for any questions he may have.

Mr. UPTON. Thank you, Mr. Chairman.

First of all, I would like to commend the Coast Guard and their response to the situation in Bay City earlier this week. From our brief inspection there yesterday, I can tell you that, as I viewed things, this really could have been a worst case scenario situation. It was quite clear that what we have learned from our lesson in Alaska is to make sure that the effort on the ground and the coordination was much better. Nonetheless, we were still fortunate, I think, in terms of the response with regard to the situation there.

Earlier, you touched on some information that you supplied to the subcommittee with regard to the equipment that will be needed once a response team is located in the Great Lakes Basin.

What additional equipment are you going to need beyond what we have today? What type of equipment are you going to be looking at? Are you going to be looking at aircraft? Are you going to be looking at booms situated on the Great Lakes Basin, which is so large. Essentially we are going to have really one response team. Are you going to be looking at different areas where you will be locating equipment?

Captain MASON. Inasmuch as when we review the contingency plans for the vessels and the facilities, we have got to decide what equipment they have to have to fight whatever type of pollution incidents could occur there.

Most of the equipment that will be required under the bill will be from that private sector. We, however, have taken a quick look at it and realize that for open-lakes type operations, we will need some additional boom. We are thinking somewhere in the vicinity of 1,800 feet of boom. We are thinking of pumping equipment that is air deployable, and we are thinking of skimming equipment. That equipment would not normally be required of either the vessels or the shore-site facility.

As I discussed earlier, that would have to be placed depending upon the availability and the capabilities for both air deployment, land deployment and the ability to load it on the barges, and we have not made that determination until we review all the contingency plans.

On your first thing, if I may say, I would like to thank you for compliments to the Coast Guard, but the effort in Bay City was a joint effort and everybody involved in it. If it had not been for the local county fire department and the state, we never would have had that situation under control.

Mr. UPTON. The system worked. That was clear.

You touched upon the criteria that will be used for establishing the Great Lakes response team.

What type of time table are you looking at? I know some of it will be dependent upon how quickly Congress can appropriate funds. Clearly this will be very important. What type of time table are you looking at for actually picking and designating the site?

Captain MASON. We have approximately a year under the bill as written to have all of the guidelines out on the street for writing contingency plans.

During that period of time, we will be working in great detail with all the people involved to determine on an initial cut what equipment they will have to have. We are also looking at the three parts to that thing.

It says that there shall be a district response unit which consists of (1) all of the Coast Guard people in the district; (2) the support staff; and (3) pre-designated equipment.

The Coast Guard people in the district are already in place. The support staff which we are looking at with the potential of four to six people will probably be based in Cleveland so that they can work on contingency plans and they can work on support to the on-scene coordinator for any spill.

The equipment will be that which is actually deployed some place in the district, and we would assume that that will be in place not later than two years from the date that the bill was signed.

Mr. UPTON. I spent a couple of hours yesterday with the local team that really coordinated all the efforts; the Banker Township Fire Department, the state police, certainly the Coast Guard and others, local community leaders. One of the things that came out of that meeting concerned the response coordination, and effectiveness connected with the drill that had been conducted only the week before on the simulated oil spill.

In fact, it is my understanding that they even used the Jupiter as the mock-up ship that had the spill. Obviously having it double hulled was a key, I think, to the prevention of an all-out disaster there.

The drill coordination with Canadian and U.S. authorities was important. I know that under the legislation that Chairman Nowak and I worked on and negotiated between the Senate and the House that will require contingency plans, has to be more than just a paper tiger. This was a key lesson that we learned yesterday.

We need unannounced drills, not only wherever the site is going to be selected, but throughout the Great Lakes. Certainly we need them on Lake Michigan and Lake Huron and the other Great Lakes. I would like to see what type of commitment or response I might receive to that question.

Captain MASON. We were very lucky with the timing of that joint United States-Canadian drill. As a matter of fact, that is the only drill that has been run in the field rather than a desk-top drill since we signed the joint Canadian contingency plan.

However, your legislation calls for unannounced drills, and it is our intention or our hope to have in the regulations that the facilities and the vessels will be required to at least once every four years to participate in an unannounced drill which will actually be deployment and exercise of all equipment, so that we can not only insure that they have it, that it does in fact work.

Mr. UPTON. I know time is fleeting. The last question that I have, the investigation is on-going now and should be finished and concluded in the next week or two is my understanding as to the cause of the problem with the Jupiter.

On the surface it seems that, before the investigation is completed, there is a lot of finger-pointing as to the actual facility and the tie-up of the Jupiter to the site in addition to perhaps another ship passing through. The question really relates to the adequacy of the on-shore facility.

Is there existing authority today without new legislation that would mandate a change or regulatory change in the way that the on-site or the on-shore facility is actually hooked up to the ship? Do we need legislation if that, in fact, is a major cause of some change or is there existing authority, possibly with the Coast Guard or maybe this should be more focused to EPA?

Captain MASON. At the current time, there is no existing regulation in place which requires the way the vessel shall be moored.

However, one of the five factors for which we have Coast Guard Marine Board, it is determined is there any other action on behalf of the Federal Government necessary to keep these types of accidents from occurring in the future.

It is quite possible that as a result of the board of investigation, that we could put regulations through the administrative procedures to require some type of mooring arrangement. Like any other Coast Guard regulation, it would have to go through the full hearing process with input from the industry and the facilities involved, but it could be done.

Mr. UPTON. Thank you.

Mr. NOWAK. Captain, could that not also be a factor that must be reviewed in the contingency plan for a localized area, because of the volumes of oil that are going to be received in those areas? I believe there are about 13 tank farms in the Great Lakes area that are as large or larger. It seems to me that those lines broke because of some stress and pressure allegedly coming from another ship passing by. Unfortunately, the ship was named *Buffalo* that passed by. It supposedly banged that up while oil was being taken off. I am just curious to see if this issue will be addressed as part of the contingency plan that has to be assembled here, if not in a general regulation.

Captain **Mason**. It is not quite determined yet what really caused the vessel to break its mooring lines. This finding or whatever finding comes out of that Marine Board of Investigation could be used in two ways.

One, as I said to Mr. Upton previously, to establish a separate regulation, if necessary, about mooring the vessels. Also, when you have to go on the street to determine what are criteria for the contingency plans.

If we find as a result of the Marine Board that action has to be taken, it could also go through that procedure of public hearings and possible inclusion as far as the requirements of the contingency plans. But I would not want to say until we do have the full Marine Board determine what really happened.

Mr. **Nowak**. Well, let me turn to Congressman Paxon.

Mr. **Paxon**. No questions at this time, Mr. Chairman.

Mr. **Nowak**. Thank you very much.

We have two other panels. I just want to remind this panel that we may be writing them individually for questions as we cross-reference all of their testimony, and thank you sincerely for taking the time to come to the hearing and give us this localized information. Hopefully, it will be helpful to us in looking at how this act is implemented. We hope it helps each and every one of you.

Thank you very much.

I would like at this time to invite the second panel forward. If you will come up and take your seats, we will go right into that testimony.

[Pause.]

Mr. **Nowak**. The subcommittee will again come to order, and we will hear from our second panel.

The first member of the panel is Representative Alvin Hoekman who is a Member of the Michigan State House of Representatives.

Mr. Hoekman, we will be happy to hear your testimony, and you may proceed as you so desire.

TESTIMONY OF REPRESENTATIVE ALVIN HOEKMAN, MICHIGAN STATE HOUSE OF REPRESENTATIVES

Mr. **Hoekman**. Thank you, Chairman Nowak.

Mr. Chairman and Members of the committee, you are in my state house district this morning in Grand Haven, Michigan.

I have approximately 26 miles of lakeshore or shoreline of Lake Michigan in my district, from the southern edge of Ottawa County to the northern edge. I have two and a quarter state parks within with fine beaches. We have the number one and the number three state parks in my district in attendance.

We also provide fresh water for all the major cities in West Michigan plus others along the major pipelines to Grand Rapids and Wyoming. I serve on the Michigan House Committee on Tourism, Fisheries and Wildlife and the House Committee on Transportation.

In light of this week's tanker explosion in the Saginaw River, this hearing on oil spill is very timely. The tanker explosion and fire came just five days, as has been mentioned before, after the U.S. and Canadian Coast Guards and state and Federal environmental agencies staged a mock oil spill on the St. Clair River. The simulated disaster was used to test the agencies' response.

According to the U.S. Coast Guard, there were 1,800 oil spills in the Great Lakes during the 1980s, but the great majority were minor, yet minors add up to majors. Until last Sunday's disaster, the largest spill in the Great Lakes occurred in December of 1976, when a Canadian tanker ran aground and dumped 42,000 gallons of diesel fuel in Eastern Lake Huron. Virtually all the fuel was burned off the water before it could cause any environmental damage.

The Michigan legislature continues to look at the possibility of disasters in the Great Lakes, and during this legislative session, several bills have been introduced and a few have been passed and signed into law. I will try to give you a brief analysis of these bills, which I helped cosponsor.

House Bill 49-29 was signed into law as Public Act 49-1990 creates the Great Lakes Spill Prevention Research Fund to pay for research on the preventions of spills during the transportation of hazardous substances on the Great Lakes and major tributaries of the Great Lakes, including research into the causes of hazardous spills and the contribution of hazardous substance spills relative to the total pollution of the Great Lakes Basin. Money in the fund could be appropriated by the legislature and could also come from gifts and contributions.

House Bill 49-31 passed in the House and is currently in the Senate Committee on Appropriations. It establishes a statewide data system for spills that will analyze and report causes.

Michigan House Bill 49-32 also passed in the House last December is currently in the Senate Committee on Appropriations. It deals with a spill prevention program fixed installations and transportation systems.

House Bill 49-33 provides immunity for any person assisting in the clean-up of hazardous substances in the Great Lakes. This bill was signed into law earlier this year as Public Law 91 of 1990.

House Bill 49-34 directs the Michigan Emergency Preparedness Advisory Council to provide for development of a statewide emergency spill plan to clean up spills of hazardous substances in the waters of this state by June 1, 1991. House Bill 49-34 presently in the House Committee on Conservation and the Environment.

One final piece of legislation, which has been signed into law, is House Bill 52-63, Public Act 50 of 1990. This bill changed the name of the Emergency Preparedness Act to Emergency Preparedness Plan and extends the act's disaster provision to emergencies. The bill outlines the duties and responsibilities of the state police and emergency management division, specifies local unit duties and responsibilities, and provides limited immunity from liability to certain parties, revised certain funding requirements and repeals a section pertaining to the primacy of emergency orders in the event of a foreign attack.

In addition to my printed testimony, Mr. Chairman, I would like to add that I believe that it would be in the best interests of the United States as well as the State of Michigan if funding could be obtained from the Federal Government to help fund the Great Lakes Spill Prevention and Research Fund which is Public Act 49-1990.

I say this in the light of the international trade carried on on the Great Lakes and with Michigan having more water and shoreline than any other state in the Union, other than Alaska. It would only seem logical that funding be granted to Michigan along with the placement and funding of a spill prevention and response center that could and should be a joint effort between our state, the Federal Government and the Coast Guard, and what better place than a Coast Guard City, USA, right here in Grand Haven, Michigan.

Protecting our water resources is a top priority in the Michigan legislature.

Thank you.

[The prepared statement of Mr. Hoekman appears on p. 104.]

Mr. **Nowak**. Thank you very much.

We will now hear from the Director, David Hales, who is with the Michigan Department of Natural Resources. He is accompanied by J.D. Snyder, who is Director of Michigan Office of the Great Lakes, and Captain Tim Yungfer, who is the Chief, Emergency Management Division, for the Michigan State Police.

TESTIMONY OF DAVID F. HALES, DIRECTOR, MICHIGAN DEPARTMENT OF NATURAL RESOURCES, ACCOMPANIED BY J.D. SNYDER, DIRECTOR, MICHIGAN OFFICE OF THE GREAT LAKES, AND CAPT. TIM YUNGFER, CHIEF EMERGENCY MANAGEMENT DIVISION, MICHIGAN STATE POLICE

Mr. **Hales**. Thank you, Mr. Chairman, Congressman Upton and our host here, the Representative Hoekman.

This is in some degree like preaching to the choir. So, I will shorten some of the sermon that I have given to you in the written portion and try to summarize it quickly and then I will certainly be available to you to answer any questions you may have or at least try.

If you will forgive one flight of rhetoric, however, Mr. Chairman, if you look at this planet from outer space, you will see that it is seventy percent covered with water—three percent of that water is fresh; twenty percent of that three percent is in the Great Lakes; and one percent of it is renewable on an annual basis. If that does not indicate to us the incredible importance and the very delicate and fragile nature of this resource, then I am not sure that any amount of further statements will do so. We are dealing here with fresh water. We are dealing with water that, because of its value as opposed to salt water, because of its characteristics as opposed to salt water, because of the complications of the Great Lakes and the Great Lakes system themselves, we are dealing with an area that deserves special consideration in any kind of response to the spill of hazardous materials or particularly petroleum.

Hazardous materials are carried—you have had statistics given to you about that and you will have others. They are also stored in large amounts in the Great Lakes, and they are also carried across the Great Lakes and connecting waterways through pipelines. The potential for a spill in Michigan obviously exists. We had 264 relatively small ones last year, none of them insignificant from an environmental point of view. I think if you look at that simple fact base, Mr. Chairman, the conclusion that we will have to come to, without meaning in any way to demean the efforts of those like yourselves, like many others who for many years have been concerned about this issue and have provided leadership on it, that we are simply lucky, Mr. Chairman, that we have not had the catastrophic spill that could so severely impair the resources that we hold so dear.

We need several things, Mr. Chairman. We need a stronger prevention program. That prevention program is addressed in the legislation you passed. I look forward to its implementation. There are some other items that we ought to consider. We need to consider new restrictions on water navigation, particularly the shipment of petroleum under winter navigation conditions by the Canadians, where, as I understand it, the ice-breaking capacity is provided by the U.S. Coast Guard, even though winter navigation is not allowed for U.S. carriers. We need to consider, Mr. Chairman, as you so wisely pointed out, the re-siting of some facilities perhaps that exist on the Great Lakes. I am informed that in Bay City, about three-quarters of a mile to a mile downstream from the Jupiter, there was an additional tank farm in which there was a million-gallon tank containing No. 6 fuel oil, literally, on the banks of the river. Had we had an escape of flaming petroleum and moving down the river, the threat could have been even greater there than it was at the site you referenced.

Secondly, we need more knowledge about how to respond to cleanups in the Great Lakes. The point has been made in previous testimony. I will not reiterate all of the differences that exist between fresh water and salt water, but we do not know enough and we need to know a great deal more, particularly about the toxicity of elements that are routinely used in salt water clean-ups and which we must be very careful using when we are dealing with fresh water organisms and fresh water systems.

We need the capacity in the Great Lakes to respond quickly in the case of a spill. As the point has been made, it is the first hour to an hour and a half that determines the difference between a response and what is really after that a clean-up, and a clean-up by any measure, is far too expensive for us to advocate as opposed to quick response or as opposed to the best solution which is prevention.

We need equipment as has been discussed which not only is focused on the protection of human health but also is focused on the protection of natural resources in Michigan. We have the responsibility for some aspects of human health environmental and resource protection in one department, the department for which I work. We have to be, by constitution in this state, Mr. Chairman, concerned about those natural resources, and I particularly appreciated the statement from the U.S. Fish and Wildlife Service about our unpreparedness to deal with the protection of some resources that are particularly critical to the State of Michigan, to the Great Lakes, and because of that, to this country. That is an issue which we need and which we will in Michigan, continue to call for addressing very strongly. I like humans as much as I like any other critter, Mr. Chairman, but I think that sometimes, as we look at the activities of the Environmental Protection Agency, we have to recognize that it is rarely focused on environmental protection, but that those activities tend to be focused on human health,—an appropriate focus, but it should not be an exclusive one.

Finally, we need training, Mr. Chairman, as the point is made for local teams. The first responders in this case, as the first responders in every one of the 264 incidents which we had in Michigan last year, are local emergency response teams. We cannot send individuals into potentially dangerous situations unprepared, with respect for their safety, and the safety of others around them, and for the resources which they are there to protect. We need strong emphasis, Mr. Chairman, on that training as a critical component of that capacity.

The last point, I think I would make, Mr. Chairman, is one that perhaps states make often, and that is that despite the importance and the value of the substance of the legislation in which the three of you played such an important role, the implementation is as important as the drafting and passage, and that implementation is going to depend on funds. It is going to depend on the willingness of the federal administration to seek funds and the willingness of Congress to appropriate those funds. Without that strong commitment to the implementation, Mr. Chairman, then we will remain, in the states, too unprepared to address the kind of catastrophic event which will come unless we get those resources. We will certainly be glad to answer questions. Captain Yungfer may have additional comments at this point.

[The prepared statement of Mr. Hales appears on p. 91.]

Mr. NOWAK. Well, thank you very much, David. We appreciate it. The Governor joined us yesterday at Bay City and gave us the background that he had derived from being at the site, I guess, just about every day. He seemed to have a whole and complete knowledge base of what exactly happened. He is also, I am sure, going to be talking to you about that particular incident.

Let us now turn to the Great Lakes Commission. We have the Executive Director here, Michael Donahue.

Michael, give us the benefit of your testimony.

TESTIMONY OF MICHAEL J. DONAHUE, EXECUTIVE DIRECTOR, GREAT LAKES COMMISSION

Mr. DONAHUE. Thank you, Mr. Chairman, Members of the Subcommittee.

I am pleased to be here on behalf of the Great Lakes Commission, which is an eight-state compact agency that represents the collective views of the Great Lakes states on economic development, resource management and environmental protection issues.

We have a very strong and vital interest in the topic of today's hearing and we applaud you for the work that you have done in facilitating passage of this important legislation.

In my brief remarks, what I want to do——

Mr. NOWAK. A lot has to do with going back to the contingency plans, which is going to be a great help in focusing on all of the local problems and local infrastructure. On behalf of Michigan and all of us in Great Lakes, I would just like to mention that Fred Upton has played a great role in this.

Thank you for your past help.

Mr. DONAHUE. What I would like to do in my brief remarks is speak to the importance of the spill prevention and response issue, to discuss some of the regional responses to date and some opportunities for continuing action. The point I would like to make up front and center is the fact that the Great Lakes states view the goals and objectives of the Oil Pollution Act of 1990 as laudable. The provisions are sensitive to the special requirements of the Great Lakes.

The act has the potential to provide the framework needed to ensure a region-wide state of emergency preparedness, but the proof is going to be in the implementation. We at the Commission, on behalf of our eight member states, will offer any advice, guidance, and expertise that you might require in efforts to implement this important act.

Clearly, the much-publicized *Exxon Valdez* incident in Prince William Sound provided a wake-up call to this region and the nation on the potential problems associated with oil and hazardous material spills, and the Great Lakes are indeed uniquely vulnerable.

Prince William Sound is not a relatively closed fresh water system. Prince William Sound does not provide drinking water to over 25 million residents, and Prince William Sound does not have hundreds of water supply intakes that are located in connecting channels. The Great Lakes, of course, have all of those things and, indeed, the system has a fragile and highly-sensitive ecosystem.

At the regional level, and I am talking about interstate and provincial levels, several initiatives have been undertaken that predate the Act and the current interest in this topic. Responding to a request from Governor Blanchard last year on June 22nd, the Great Lakes Commission worked with the Council of Great Lakes Governors to establish a multi-jurisdictional task force on emergency preparedness, which is chaired with the very capable leadership of the Michigan Department of Natural Resources.

Complemented by a Great Lakes Governors Oil Spill Control Strategy Agreement, signed last July 29th, we have been involved in several activities. The first was the approval of a region-wide policy statement last November that presents a series of findings and recommendations relative to strengthening our emergency preparedness capabilities in the region.

The two organizations aggressively and successfully—with your support, assistance and leadership—succeeded in lobbying for Federal legislation that would indeed strengthen Great Lakes Spill Prevention and Response Capability.

We at the commission have urged House and Senate conferees to include language that would include at least one spill response center in the Great Lakes, to provide the research and development funds to address Great Lakes-specific problems, and to provide the direction and funding necessary to implement existing regulatory, enforcement, inspection and monitoring responsibilities of a variety of Federal agencies.

Also, in cooperation with Captain Mason and the U.S. Coast Guard 9th District, the Commission and Council of Great Lakes Governors is in the process of developing a computerized inventory of public and private sector spill response equipment, personnel and related resources.

We were very pleased to see provisions in the federal law that called for a national inventory, and we hope that we can work with the federal agencies involved to make sure that the Great Lakes continues its leadership role in that area.

And, finally, our task force has prepared a set of criteria which local and state governments can use to evaluate existing emergency preparedness plans and strengthen their attention to Great Lakes interstate and state provincial matters.

Now, in the final minutes of my remarks, I would like to identify eight opportunities for continuing action, and most of them are invitations from the collective Great Lakes states to members of Congress and to federal agencies to assist in implementation of this vital legislation.

Clearly, first off, every effort must be made to ensure that implementation of the new Act does address the special requirements of the Great Lakes. Criteria must be established for the location of the Great Lakes spill response center, and the Great Lakes Commission, Council of Great Lakes Governors and other regional organizations are more than willing to assist in identifying such criteria and provide that information to those who will make the ultimate decision.

Second, the new act authorizes a national research and development program and will fund each of the ten federal districts to permit research and development to take place in areas that have historically been ignored or under-studied.

There are a number of key concerns in the Great Lakes, such as under ice spills, and water soluble toxic spills, that need attention. Again, we invite those responsible to work with us, with other regional interests, with the universities and the academic institutes, to develop the criteria to help allocate those funds to the most needed areas.

Third, we are pleased to note that section 4202 of the act establishes a national planning and response system that does indeed call for a comprehensive computer list of spill response removal resources, personnel and equipment that is available worldwide.

We believe we have a jump start on this activity through our task force, and we are in the process of sending out thousands of notices to townships, community officials, legislators and companies in the Great Lakes region to inform them of the survey effort. We hope that we can use the information garnered from our effort to help strengthen not only the regional response capability but perhaps influence the design of the national computer system.

Fourth, we note that many federal agencies already have the authority to undertake regulatory, enforcement, inspection and monitoring programs needed to enhance spill prevention and response, but they lack the direction and funding necessary to make that happen. We look to Congress and the Federal agency leadership to address this concern.

Fifth, and importantly, to date, the majority of the spill prevention and response focus has been directed at waterborne transportation. This is clearly a reflection of the *Exxon Valdez* incident, and clearly we do need to look in that direction. But it is also important to note that commercial vessels account for only a small portion of total spills, and while the focus must be there, we must not forget about the shore-side facilities and the spill potential on that end of the equation.

Sixth, at present, clearly the emphasis is on the response end of the prevention and response equation, and as the new Act is implemented, we hope that we can move increasingly into the prevention mode as well after emergency preparedness capabilities after they are enhanced.

Seventh, it is imperative that the Congress and relevant state and Federal agencies recognize this issue as a bi-national one. We do have coordinated U.S. and Canadian Coast Guard activity under the terms of the U.S.-Canada Great Lakes Water Quality Agreement and joint response plans and exercises, but implementation of the Act must reflect and build upon the relationships. We must be sensitive to the fact that our Canadian neighbors share responsibility for this great resource.

And, finally and perhaps most importantly, state, Federal and local jurisdictions must be willing to maintain a longstanding commitment of personnel, equipment and funds to ensure an adequate state of emergency response.

It is human and bureaucratic nature that, in the absence of crises and emergencies, prevention capability and the resources allocated toward the prevention mode tend to erode over time. We simply cannot afford to let that happen.

In conclusion, the challenge before us is one of great magnitude but really pales in comparison to the consequences of inaction. We at the Commission believe that strengthening our spill response and prevention capabilities now is a sound investment in the future of the world's greatest fresh water resource.

Thank you.

[The prepared statement of Mr. Donahue appears on p. 84.]

Mr. NOWAK. Thank you very much, Michael.

We will now turn to Helen A. Brohl, who is the Director of Marketing and Maritime Office for the Illinois International Port District.

TESTIMONY OF HELEN A. BROHL, DIRECTOR, MARKETING AND MARITIME OFFICE, ILLINOIS INTERNATIONAL PORT DISTRICT

Ms. BROHL. Thank you, Mr. Chairman.

I am here on behalf of my Executive Director, Anthony G. Ianello, and the Board of Directors.

Mr. Chairman, I would like to say very quickly that I spent a couple of years with the St. Lawrence Seaway Development Corporation in Washington, and I know firsthand of your extraordinary help with the Seaway Corporation, the Seaway System and the Great Lakes.

We are very happy to be here today. We appreciate the efforts that you are making on behalf of Great Lakes emergency response capabilities.

I have a detailed report for the record which completely spells out what happened in our spill exercises, which I think offers some good advice from our experiences.

I also have a statement for the record from the Mayor of Chicago, Richard M. Daley, who sends his regards and appreciates the opportunity to make a statement and your efforts.

Mr. **Nowak**. Well, please say hello to the Mayor and your statement will be accepted into the record.

Ms. **Brohl**. Thank you.

[The prepared statement of Mr. Daley appears on p. 148.]

Ms. **Brohl**. The Illinois International Port District is a municipal corporation with responsibility to manage the property it owns in the City of Chicago. It is a land-lord port. It also enforces regulations within 40 feet of the navigable waterways within the corporation city limits of Chicago.

The U.S. Coast Guard and Marine Safety Offices, as you have learned today, located in the ports around the country, including the Great Lakes, have the responsibility for oversight of the waterborne movement and transfer of liquid bulk products.

However, as the port authority, and I can speak for the other ports in the Great Lakes that are involved in these kind of cargo movements, we all take seriously our roles in promoting the safe and efficient movement of cargo within the Port of Chicago and certainly the Great Lakes community.

In Chicago, we have within our jurisdiction an 800,000 barrel capacity liquid bulk terminal, and there is a great deal of lightering taking place in the Port of Chicago, particularly in Calumet Harbor. We work closely with the Chicago Marine Safety Office and other governmental agencies and entities within the private sector which may directly or indirectly be involved in spill containment.

The Port of Chicago, as outlined under the jurisdiction of the Coast Guard, Chicago Captain of the Port, is not only the center for waterborne liquid movements in Southern Lake Michigan, it is the center for movement of dangerous cargoes in the entire Great Lakes.

Eighty-five percent, of all liquid dangerous cargoes moving throughout the Great Lakes are handled in Chicago. There are 5,300 transfers of dangerous cargoes take place in the Port of Chicago area each year. This is more than all the other Great Lakes ports combined.

Naturally, after the *Exxon Valdez* incident, we were concerned about the capability for spill containment and clean-up, particularly after the U.S. Coast Guard acknowledged in a GAO report, 90-83, that it is not prepared to respond to major oil spills over a 100,000 gallons.

I would assume that since then, they have been working on this type of thing and that may have improved.

The Chicago Marine Safety Office has estimated that if there were a major catastrophic spill in Calumet Harbor in Chicago through the collision of two tanker-type vessels, that there could conceivably be a spill of 750,000 gallons.

Just for the record, we would like to have you keep in mind that when you are looking at the entire analysis of movements of cargo within the Great Lakes, that you have to remember that at least in Chicago, there is a hundred miles of inland waterway over which we have jurisdiction as well, including the hundred miles of Lake Michigan shoreline.

The inland river system is important navigationally and economically to the Great Lakes and really cannot be ignored when assessing the big picture.

After the *Exxon Valdez*, we met with the Chicago Marine Safety Office to find that while there was a spill contingency plan, it needed to be updated. MSO Chicago had received direction to do so but it was clear that proper field exercises had to be held in order to ascertain where vulnerabilities were.

We learned a few things in the process, which we related in more detail in the other report, but one was that the U.S. Coast Guard Marine Safety Offices around the country are expected to handle spills up to 50,000 gallons. Unfortunately, they are not given equipment to do so.

Additionally, there is no allocation source by which monies are reserved for field exercises for U.S. Coast Guard contingency planning. Given that MSOs will have to rely on the private sector to assist in clean-ups of moderate-sized spills, it would seem that field exercises with local clean-up companies is imperative.

Despite this, the Chicago Marine Safety Office and the Port District cosponsored a field exercise on May 21st of this year. Funding for the exercise came directly from the private sector. Assistance was also given by the Chicago Water Reclamation District, Southern Lake Michigan Coast Guard Rescue Stations and those private sector companies which currently operate liquid bulk vessels in the area and/or own shore-side facilities.

The overall coordination was held with the Chicago Marine Safety Office and, incidentally, for the record, it was handled very professionally and in an expert manner, and we would like to commend Captain Larry Balock of the Marine Safety Office in Chicago and his people for their tremendous work.

Additionally, excellent assistance was provided by the Calumet Harbor Rescue Station and other Coast Guard rescue stations along Lake Michigan.

In addition to the May 21st spill exercise, it was followed with a mobilization of the Atlantic Strike Team Containment System from Mobile, Alabama, to the Port at its Iroquois Landing Lakefront Terminus on July 24th. As a result, at that time, Chicago was the only Great Lakes port to have successfully held an exercise on its own without a strike team and with strike team capabilities.

In summary, we have just five recommendations generally to state today.

First, marine safety offices, if they have not done so, must make sure that their contingency plans are updated. Since MSOs do not have their own equipment for clean-up and will call upon the private sector, this is even more imperative.

A plan forces an accurate assessment of what is available, and although there has not been general assessment of equipment throughout the Great Lakes, it was found that in Chicago, in going around to try to determine the type of equipment available, we found that a lot of companies reported equipment that actually they were subcontracting out to the very same companies. So, it is easy to have an overlap of equipment.

Our Chicago Marine Safety Office has updated their contingency plan, and we appreciate their attention to this matter.

Secondly, funds must be made available to support oil spill response exercises. Currently, the U.S. Coast Guard cannot fund oil pollution response drills from either 311(k) fund or the CERCLA fund. Funding for major oil spill response which in the Great Lakes is anything considered over 10,000 gallons because it is considered part of the inland waterway system is necessary to maintain the readiness of local response teams in the national contingency planning. I believe this has been stated before.

Thirdly, support must be given to the U.S. Coast Guard to train and support additional inspection officers for each and every marine safety office in the Great Lakes and around the country.

As we stated earlier, Chicago handles eighty-five percent of all dangerous materials in the Great Lakes, yet our marine safety office, because of budget constraints, is given approximately one and a half inspection officers. More personnel are needed in the field to prevent accidents from occurring in the first place, particularly since most accidents and most spills come from shore-side facilities.

It is through this preventive medicine that we can prevent accidents in the first place.

Fourthly, field exercises should be required by private sector clean-up companies themselves to determine the effectiveness of their equipment for this specific environment in order to get Coast Guard approval for contracts.

This may be in conjunction with formally-organized Coast Guard exercises but it should be done. The clean-up company that volunteered its time, money, personnel and equipment to the Chicago field exercise did a terrific job, but we know from the experience that it learned that Lake Michigan was much more than just a big pond. Their previous experience was with the ocean.

Fittings snapped. The tows were not quite correct. They themselves had boats that were just far too small for the short hard chop of the lake waters. Additionally, it was found that only the large ocean boom, a 36-inch boom with 24-inch skirt, was sufficient to handle containment on Lake Michigan. Anything less should be reserved for calm and protected waters.

I say this because I often read articles about companies that talk about having eight-inch boom or 12-inch boom, but, frankly, our experience just said that that was not sufficient for Lake Michigan waters.

And, finally, oil spill containment systems similar to those operated by the Atlantic Strike Team in Mobile, Alabama, should be kept in the Great Lakes, and we do have to say that specifically we would like sincere consideration for Chicago.

The response time to Chicago's docks from Mobile, Alabama, was approximately 12 hours with comprehensive advanced planning. The Lake Michigan environment is far too volatile for this kind of delay. We feel that the Coast Guard open water oil containment and recovery system should be maintained at the U.S. Air Force 928th Tactical Reserve Air Group at O'Hare Field in Chicago. It is an appropriate location for government equipment to be maintained and one where the special K-cars for movement of this equipment currently exists.

It is also readily deployable to the Port of Chicago where eighty-five percent of all these materials are handled on the Great Lakes. It is also an excellent location logistically for rapid deployment to other parts of the Great Lakes or the country as needed by Coast Guard C–130s or C–140s.

In this case, we feel it is not a political issue, but we feel we have the need, the experience and the capabilities.

Thank you very much, and I am happy to answer any questions.

[The prepared statement of Ms. Brohl appears on p. 53.]

Mr. NOWAK. Thank you very much.

Let me, first of all, turn to Fred Upton for any comments he would like to make at this time.

Mr. UPTON. Thank you, panel, for spending some time with us this morning.

I think all of you have made the very worthwhile point that there certainly is a need for Federal funds. The need for field exercises, is really critical to anything that may happen, and we know that things are going to continue to happen. It is unfortunate, but we are always going to have spills that will be occurring. If you look at the last decade and you look at what happened just this week, you can visably see the extent of the problem.

I would be curious to know how successful we have been in integrating some of the Federal laws that are on the books. I do not direct this to any particular individual but, maybe, we could get a couple of comments from several of you, what role have these laws played with respect to oil spill legislation. I am talking about laws such as the Super Fund, or the Community Right-To-Know Act, or certainly the Hazardous Materials Transportation Act, all of which we have been reviewing in Congress.

Has there been a positive integration with regard to your planning, for the contingency? Do you actually spend any time integrating any of those?

Captain YUNGFER. I am involved with the implementation of the SARA Title III planning process in Michigan, and part of that process involves the lakeshore communities throughout the state, developing contingency plans with private industry to develop plans for response to local spills, and we really have not, you know, integrated those two processes yet.

We are still in the embryonic stages of implementing the SARA Title III because of funding shortages that we have experienced, you know, throughout the state at the local level.

Mr. UPTON. I think, Dave, you hinted on this and you discussed it in your testimony. We were, in fact, very fortunate to have had that trial which was only a few days before the Jupiter incident.

I can remember reading, in Detroit Free Press in some airport going back to Washington about a drill to simulate the oil spill. I realize the audience might not know about the drill; they used oranges to simulate the oil spill, and, as I recall, about eighty percent of the oranges were not recovered, and obviously a lot was learned in those five interceding days between the actual drill and the actual incident.

Certainly the most important lesson learned I think was the coordination between all the authorities. They got to know each other and how to work together and this proved to be very successful on Sunday. In light of the fact that only eighty percent of the oranges got away, what do you see in the future? What are some lessons that you might have learned from that as you look toward perhaps a different scenario?

And I know of course, that, happened over on the eastern side of the state. I am not aware, Al, maybe you ought to know. But—of any exercises that have occurred or that have been planned for the western side of the state where, of course, as I had mentioned earlier, the Jupiter was here only three weeks ago. In Chicago, of course, the other statistics with regard to the number of transfers in Chicago Calumet area are apparent.

Mr. DONAHUE. I think, Congressman, one of the reasons that the first exercise was held where it was was because of the very unique and difficult situation that occurs in the connecting waterways, where you have very rapid currents. It is to some degree unpredictable at times, and a large reason for the escape of oranges, which I think have now all been biodegraded or collected, have—was because of its location.

But I think we need to also recognize that in the Bay City incident, that had we not had a fire, and had we had a major spill at the same point, that the impacts would have been far more catastrophic, that I do not want to prejudge the full analysis which we will do of the degree to which the facility complied with its prevention plan.

I do not want to prejudge in any way the full analysis that all of the agencies involved will do in looking at the deployment of booms and the availability of booms and when they arrived on site and when we put them in the water, but my impression is at this point that from an environmental standpoint, the fire itself was a Godsend, and that had that material at 8:40 on Sunday morning been released in a large slug going down the river, that it would well have reached the mouth of the river and then dispersed into the bay before we could have gotten booms in place to restrict its movement at all.

I think it further underscores the need to have equipment adequate to conditions in the Great Lakes stored at points around the state where we anticipate the risk, and not just this state but around the Great Lakes, where we anticipate that the risk is the highest.

Mr. UPTON. What was the cost to the state for the drill? Was there some estimate?

Mr. DONAHUE. Well, the drill itself—Tim, do you know?

Captain YUNGFER. We have not tabulated all those costs yet.

Mr. UPTON. Do you have a ball park number in terms of the cost? I think one of the most important lessons that really came out of that, as I talked to the people from the township fire department and the Mayor and the other folks in Bay City and you, Tim, as well. You certainly had a large role to play and thanks again for your assistance yesterday. But it was really the coordination of all the local units working together.

As I look at our side of the state, and, of course, my congressional district extending south from here to the state line and Guy VanderJagt's to the north, I will note that we have a number of these oil terminals on our side of the state, as well as across the lake in Wisconsin, Indiana and Illinois.

Captain YUNGFER. As for the cost, the costs were—we had—we combined our costs. The state provided certainly personnel and certain resources. The Coast Guard picked up the cost to a certain extent, and also private industry played a big part in picking up the cost of this exercise last week.

This was a full field exercise in which we had private contractors responding and deploying boom on the St. Clair River, and just for the record, we collected, out of ten bushels spilled in the St. Clair River, we recovered eight bushels of that. That article was incorrect.

Mr. UPTON. Oh, oh, all right, all right.

Captain YUNGFER. It was written before the exercise.

Mr. UPTON. I am glad to correct the record.

Captain YUNGFER. Well, what the exercise really underscored in terms of any kind of plans or whatever is the real importance of prevention.

We know that if a spill occurs, there is going to be ecological damage. I do not care how quickly you plan a response or how efficiently we respond, there is going to be damage, and as the Jupiter case pointed out, it was a blessing that there was a fire because of that, because it burned off product.

But as far as the costs, we have not fully—I have not fully calculated that, but the costs were not that much in terms of state. It was a matter of getting personnel and resources at that point, you know, to conduct the exercise.

Mr. UPTON. So are the chances are good that we could see a similar type of exercise perhaps on this side of the state at some point in the future?

Captain YUNGFER. Right now, we are planning to work our way around the state. Even right now as we speak, there is a table-top exercise in Mackinaw City being conducted with the state and local officials.

Next year, we are planning a—I hate to say this after the use of the Jupiter last week,——

Mr. UPTON. You cannot use that again.

Captain YUNGFER. Right. But we are planning an exercise in the Straits of Mackinaw next year, a full field and response exercise, simulating a collision between ferry boats and other complications with that.

So, Canuslak took nine months to plan. It is a massive effort to plan and put something like that together, and it really takes a lot of time and effort to put something like that together, but it was worthwhile as pointed out this past week.

Mr. NOWAK. Thank you very much.

Congressman Paxon, do you have any questions or comments at this time?

Mr. PAXON. No. My only comment would be that the information provided I think today from my perspective has been some of the most comprehensive and interesting, both panels, that I have had, and I appreciate the information and keep up the good work.

Mr. NOWAK. Let me again thank this panel as well for the information. Looking at this in terms of prevention as well as the response to a tragedy is really what we tried to focus on in the oil spill bill. The bill gives the states and the communities, a new opportunity, to review contiguous plans. We mentioned the Chicago experience of looking at all of the safety features that exist and how they could be improved. I think as the local infrastructure, transportation, double hulls, and double bottoms, over looked at in relation to the whole system, we come to the conclusion that we have an opportunity to revise and strengthen contingency plans to a large degree. Hopefully we can prevent ninety-nine percent of the spills, and not have to look at putting tremendous efforts into taking care of an oil spill.

So, I urge your continued focus on this. We will certainly look at the dollars that are going to be needed to implement not only the basic tenets of the legislation but also to give you the opportunity to have each and every one of your communities get citizen input and to take another look at that the "infrastructure" that make up your area.

And another part that is sometimes overlooked is really the industry role. With the raising of liability limits on the industry, they have to take another look at the increased cost of an accident and perhaps invest more money not only in their shipping of oil but all the other elements within the total system—right to delivery to the consumer. I think that is really part and parcel of what we tried to do. Some people say we have spent a year working on this oil spill bill. I started working on it in 1974, and it was not until this year that we got a bill out of Congress. Most of that was driven by the *Exxon Valdez*. Finally, there was enough awareness and pressure and a crisis. Hopefully, we can prevent another crisis with the passage of this bill. We certainly want to encourage your continued support and input as we go forward in implementing this new oil spill prevention initiative.

Thank you very much for your attendance.

I would now like to call our last panel to come forward. We are running a little short of time. We do have all of your testimony. We would like you to summarize your statements as many have made the same points here today. It becomes somewhat repetitive, although everybody has certain new points to bring forward.

We have, from the Michigan United Conservation Club, Mr. John Eichinger, past President.

Mr. Eichinger, we are happy to have your testimony.

TESTIMONY OF JOHN EICHINGER, PAST PRESIDENT, MICHIGAN UNITED CONSERVATION CLUBS

Mr. EICHINGER. Thank you very much, Chairman Nowak, Congressman Upton and the Subcommittee on Water Resources, on behalf of myself and the 135,000 members of Michigan United Conservation Clubs, for this opportunity to present our concerns about oil spill response capabilities in the Great Lakes.

As you no doubt already know, the Great Lakes are a fresh water resource without parallel anywhere in the world. The Great Lakes Basin is populated by nearly 40 million citizens of the United States and Canada, many of whom are totally dependent upon the waters of the Lakes for municipal and industrial water supplies.

The Lakes also support a vital tourism industry which brings many millions of dollars annually into this regional economy, important sport and commercial fisheries, and critical fish and wildlife habitats.

Because of the fragile nature of the Great Lakes ecosystem, these and other valuable areas would be seriously jeopardized should an oil spill occur. The possibility of such a spill appears substantial throughout the Lakes, petroleum refineries and storage facilities are common along our shorelines and tributaries. Tankers plying the waters of the Lakes carry hundreds of thousands of tons of petroleum products every year.

Each of those facilities and every mile traveled by those tankers represents a potential disaster of tremendous magnitude. In light of the recent gasoline tanker disaster in the Saginaw River at Bay City, we are understandably concerned.

Although the incident does not appear to be as serious as it could have been, it emphasizes the dangers present every day of the Great Lakes shipping season. The recent emergency preparedness exercise in the St. Clair River has clearly demonstrated that the present ability of state and federal agencies to respond swiftly and decisively to such events within the Great Lakes waters is questionable as the state of disaster response planning in this region lags behind that of the Atlantic, Pacific and Gulf Coasts.

We believe that we have a responsibility to the citizens of the Great Lakes region, both American and Canadian, to elevate the oil spill response capabilities of all participating agencies to the highest practical level.

The present oil spill prevention and response bill recently signed by President Bush represents an important step forward in achieving the necessary level of response capability.

We trust that the Congress and the Administration together will follow-up with the necessary commitment of funding and resources to do the job.

Thank you for your consideration.

[The prepared statement of Mr. Eichinger appears on p. 89.]

Mr. NOWAK. Thank you very much, and let us turn to our second witness, from the Michigan Steelhead and Salmon Fishermen's Association, Gordon Zuverink.

TESTIMONY OF GORDON ZUVERINK, PAST PRESIDENT, MICHIGAN STEELHEAD & SALMON FISHERMEN'S ASSOCIATION

Mr. **Zuverink.** Mr. Chairman and Congressman Upton, Congressman Paxon, I represent Michigan Steelheaders as past president. I am a Lake Michigan advisor to the Great Lakes Fishery Commission, and I am also a charter boat captain. So, I have several varied interests.

During the past 20 years, we have heard a great deal of testimony and documentation regarding the deterioration and devastation of the Great Lakes, much of which is repetition, yet it bears repeating as long as the problems remain unresolved.

The five Great Lakes and connecting waters have suffered tremendous setbacks during the past 50 years due to progress, population explosion, municipal and industrial growth. As a result of this progress, the Lakes have suffered with pollutants introduced through ground water, tributaries and airborne contributions.

Through concerted effort by concerned groups and agencies, our Great Lakes waters are once again productive both for fishery habitat and human consumption.

Through the efforts of State, provincial and Federal agencies, the Great Lakes fishery has grown to world class. The sport fishery today generates annual basin-wide economic activity of $4.4 billion and sustains some 75,000 jobs.

The commercial fisheries generate $270 million in economic activity and 9,000 jobs. The Lake Michigan Sport Fishery alone has created an impact on the economy as high as $50 million. Annual spending in Ottawa County is nearly $5 million which was the highest of six coastal counties surveyed.

The success of the Great Lakes Fishery resulted in substantial public and private investments. In 1983, Michigan ranked fourth among the states in total sales of boats and accessories, $286 million. Other private investments have been in the Great Lakes charter coat industry, $31.2 million in 1985. That year, 239,000 clients spent an estimated $21 million excluding charter boat fees.

The Great Lakes Fishery Commission, a joint commission between Canada and the U.S., was formed in the 1950s to re-establish the nearly-extinct lake trout populations in the Great Lakes. Today, the total budget for the Commission, including Canada's contribution, is $13.9 million. The U.S. share of this program is $9.4 million. These tax dollars are spent in an effort to maintain the lake trout fisheries portion of that $4.4 billion of economic activity.

Our fishery is a fragile resource, highly susceptible to changes in habitat and environment, and wholly dependent upon relatively clean water and a healthy and adequate forage base.

Any new introduction by way of oil or chemical spills would have a devastating effect on fish, wildlife and humans. Any major spills could be irreversible. The fruits of our efforts for the past 20 years could be lost. The problems that we have experienced during the past three years with our deteriorating salmon fishery and they will all be traced through water impurities, we have to learn the origin of these losses.

It is common knowledge and belief that the future of our nation's livelihood and existence lies in the areas surrounding the Great Lakes Basin. We cannot afford to gamble with this irreplaceable resource.

Plans must be made today to prevent any chemical or oil spills in the Great Lakes Basin. Plans must be made to deal with accidental spills should they occur. Congress must act immediately to provide funding and facilities to deal with the prevention and/or accidental spills of oil or toxic materials.

That concludes my prepared statement, Mr. Chairman.

[The prepared statement of Mr. Zuverink appears on p. 135.]

Mr. **Nowak**. Thank you very much, Gordon.

Let us now turn to Janet Vail, a research associate from the Water Resources Institute.

TESTIMONY OF JANET H. VAIL, RESEARCH ASSOCIATE, WATER RESOURCES INSTITUTE

Ms. **Vail**. Thank you for the opportunity to address the Water Resources Subcommittee on behalf of the Grand Valley State University Water Resources Institute. The Water Resources Institute was established in 1986 at the Grand Valley State University campus in Allendale, Michigan. WRI is dedicated to the development, protection and improvement of our aquatic resources. WRI maintains a research vessel, the DJ Angus, in Grand Haven as an integral part of our program.

The entire WRI statement to be submitted to the record outlines the potential effects of oil spills on the Great Lakes Basins, pointing out similarities and differences between marine and freshwater systems, physical and chemical considerations, biological and ecological effects of oil and, finally, research needs.

Much attention has been given to the effects of oil spills on marine environments with little attention given to freshwater systems. However, many of the problems created by spills in marine systems are comparable to those expected in the Great Lakes.

The behavior of petroleum is fairly similar in both salt and fresh water systems. Two important differences between the Great Lakes and the oceans are that the Great Lakes Basin is a relatively closed system and freshwater is an important resource for drinking water, industry and agriculture.

Unidirectional flow from rivers virtually assures that oil from large uncontained spills in rivers will quickly find its way into the Great Lakes. Residence time of petroleum constituents in the Great Lakes can be from 2.6 years (Lake Erie) to over a 190 years (Lake Superior).

Two other differences relevant to the Great Lakes include seasonal presence of ice and great variations in currents, wave heights and wind directions in a relatively small system. The shores of the Great Lakes become impacted with ice as early as November and ice can linger into April. Recovery of petroleum under ice represents a major challenge. A related concern is the rupture of bulk storage tanks during the cold weather that could spill their contents into waterways impacted with ice.

An important aspect of response to an environmental catastrophe is characterization of spill or to released material. Rapid analytical methods need to be available to characterize the chemical composition of the oil. Spills from unknown sources may have a unique fingerprint that will allow them to be identified if analytical equipment is readily accessible.

The fate of the components of the oil include evaporation, dissolution, emulsification, adsorption and deposition. The lighter aromatic and more toxic components of petroleum are lost within 24 hours following an oil spill leaving heavier, less toxic compounds.

From thirty to fifty percent of crude oil and ninety to a hundred percent of gasoline will evaporate when spilled in water. Little is known about the effect of the interaction of these hydrocarbons with contaminants already in the water column or sediment.

Selection of the proper clean-up technology must take into consideration all the routes of exposure of petroleum in the environment. Little work has been carried out on the effect of dispersants in fresh water. Formulations suitable for marine spills may be totally unsuitable for freshwater spills.

Short-term biological effects of oil spills include oiling of animals by surface slicks, acute toxicity of dissolved material being ingested by organisms, and spilled material sinking to the bottom killing bottom species. The lighter, more volatile fractions of oil are acutely toxic to most types of organisms.

This hearing is certainly timely as damages to the biota from the explosion of the gasoline tanker Jupiter are currently being assessed. It is significant to note that there were hundreds of dead fish washed ashore in Saginaw River. The specific cause of fish mortality should be thoroughly investigated and documented since literature on this subject is sparse.

Long-term effects of oil spills involve disruption of reproduction, loss of individuals, changes in food web structure, and chronic effects of sub-lethal levels of contaminants. Absorbed hydrocarbons accumulate in tissues high in lipids and can contribute to physiological and reproductive damage due to chronic toxicity.

At the community level, it is difficult to predict rates of recovery and ultimate species composition in a contaminated environment. Re-establishment of the former diversity, dominance and abundance of species may never occur.

Much still needs to be accomplished regarding research on freshwater oil spills. Data gathering is restricted to laboratory studies, controlled field studies and post-accident studies. There are many opportunities for contributing to the knowledge of the Great Lakes. Some research topics that warrant attention include: A synthesis of available information on the effects of oil in the Great Lakes ecosystem, including both acute and chronic toxicity considerations; baseline studies on the natural flora and fauna of the Great Lakes with attention to organisms that are indicators of pollution; the effects of dispersants and surfactants on Great Lakes organisms; characterization of the behavior of oil under ice; and development of specific models for the Great Lakes of oil spill behavior under various weather conditions.

In conclusion, we would ideally like to prevent spills from happening in the first place. However, spills are already occurring and will continue to occur in the Great Lakes region. The major oil companies appear to be far more concerned about marine rather than freshwater spills and have largely ignored the needs of the Great Lakes in spite of the fact that approximately eighty-five percent of the Great Lakes spills are oil.

The people of the Great Lakes Basin must look to other sources of support for an oil spill response effort, such as those that which could be provided by the United States Coast Guard and other branches of the Federal Government. Indeed, Western Michigan has welcomed the Coast Guard in Grand Haven, expresses its appreciation each year through the Coast Guard festival.

The presence of a well-trained and well-equipped spill response team that has access to specific information about the Great Lakes Basin can greatly decrease the adverse effects of oil spills on the Great Lakes ecosystem.

Funding and leadership from the Federal Government for spill prevention, response and research is needed now. The Great Lakes are too precious a resource for there to be any question about their protection from the environmental catastrophes that may occur in the future.

[The prepared statement of Ms. Vail appears on p. 127.]

Mr. **Nowak**. Thank you very much, Janet.

We will now turn to David Usher, who is the President of Marine Pollution Control. He is accompanied by Clay Evans, who is Executive Director of the Spill Control Association of America.

Mr. Usher.

TESTIMONY OF DAVID USHER, PRESIDENT, MARINE POLLUTION CONTROL, ACCOMPANIED BY CLAY EVANS, EXECUTIVE DIRECTOR, SPILL CONTROL ASSOCIATION OF AMERICA

Mr. **Usher**. Thank you, Chairman Nowak, and Mr. Upton, Mr. Paxon.

I appreciate the opportunity to participate and testify before this committee both as president of Marine Pollution Control and as president of the Spill Control Association of America.

I would like to begin with a brief statement which covers some of the concerns we are discussing here today.

I have been in the spill control business for 23 years. My company has participated in the clean-up of major oil spills in all parts of the world, and we were involved in the Exxon Valdez accident in Alaska.

Since then, we have helped clean up spills at Huntington Beach, California, on the American Trader, as well as the Megaborg in Galveston, and we are presently involved in the clean-up activities on the Jupiter in Bay City.

I would also like to add that the Spill Control Association of America represents a sophisticated business. It is composed of companies dedicated to the protecting of the environment, and I am proud to be the president of a trade organization which has such an outstanding record.

Having been involved in spill control for more than two decades, I have studied carefully the public reaction to oil spills, particularly after major ones like the Exxon Valdez, which create more than their share of publicity, and while much needs to be done in helping to prevent such disasters, I also want to urge that we not adopt federal or local levels unnecessary and costly measures which would do nothing to address tne problem.

The philosophy of those of us in this industry is simple: we want to work in partnership with government in the development of the most productive legislation and policies possible. A partnership presently exists and we need to build on that partnership between government and organizations like the Marine Spill Response Corporation, formerly known as the Petroleum Industry Response Organization, PIRO, which represents the oil industry and the private sector actually engaged in the clean-up of oil spills.

Each has an essential role in oil spills and Federal and state and local legislative bodies can help in defining their respective responsibilities.

First, government. I would suggest that government's role is to monitor and to enforce the clean-up of oil spills. This role historically has been played by the Coast Guard and it has done so very effectively. The private sector's continuous participation in clean-up efforts has created in the industry the professional maturity and the experience necessary in these situations.

The problem is not with the lack of spill control expertise and ability; the problem is one of response time and coordination, and this is where government, state, Federal and local, can help. It can assist by assuring that response time and coordination is enhanced and monitored. It can help in research and development.

If, however, government finds it necessary to create response centers at strategic locations, particularly in remote areas, then I would suggest that maintenance and operation of the equipment be assigned to the private sector.

As to the Great Lakes particularly, we have the response capability in this area as well. I have testified before several committees of the Michigan State Legislature and appropriate committees in Illinois as well. We believe we are properly prepared and if the U.S. Coast Guard strike teams are created, we hope they will follow the criteria outlined by Michigan Senator Carl Levin. He supports the creation of a center which would be used primarily as a storage facility containing variable transport equipment not available in the private sector. He sees such a center supplementing rather than replacing equipment already available in the private sector.

As to personnel, he supports the use of responsible contractors and he would not support a federal response center which would be in competition with the private sector. That is basically our position.

We believe it is responsible and in the public interest.

As I have indicated, it would be wasteful duplication to provide government personnel to operate this equipment nor would they have the expertise. It is highly unlikely that any strike force would ever develop the expertise of those of us who are involved in clean-up operations constantly throughout the world.

At the risk of belaboring the point, we have a thriving, competent and efficient private sector, which has done an outstanding job in oil spill and hazardous material clean-up operations. There is no need to supplant it with government personnel.

We believe Federal, state and local governments should assist in developing administrative policies which assure the quality of the private sector spill control organizations. Hasty rule-making, such as the proposed House Bill 58–78 in Michigan on liability, could seriously impair the response to clean-up.

Organizations, such as the Marine Spill Response Corporation, have an essential role as well. I believe MSRC can assist this industry with research and development which is a prohibitive undertaking for the private sector. Indeed, it is too expensive.

Finally, I am proud to indicate that my company, Marine Pollution Control, is providing the State of Michigan with 10,000 feet of oil boom to contain and help clean up oil spills on the Great Lakes, and we are going this in cooperation with Amoco Oil. This new program announced by Governor Blanchard at a press conference September 11th at the Canuslak exercise, as I said, is being undertaken in cooperation with Amoco.

The boom will be stored in Amoco terminals in Muskegon, Bay City, Sheboygan and Escanaba, as well as in the St. Clair River area. They will be available for deployment as the first responders in the spill—in the event of a spill. This strategic deployment of oil boom will assist us greatly in the case of an oil spill emergency, and we are proud to initiate this program to help protect the Great Lakes.

As I said, our industry has made substantial contributions in assisting these disasters, sometimes in very hazardous situations, as vis-a-vis the Jupiter, and we are prepared to continue to do so, working with government and MSRC, and with this committee, with each partner carrying out its responsibilities to assure successful clean-up efforts and that the public interest is served in the best of our abilities.

Again, thank you for the opportunity to participate in this panel, and I would be pleased to answer any questions if there are any.

[The prepared statement of Mr. Usher appears on p. 122.]

Mr. Nowak. Thank you very much, David. I thank all of our members of this third panel. Certainly you have heard the other witnesses that looked at various aspects of this.

One of the reasons, 14 years ago, why an oil spill bill could not be put together was because the House at that time could not get all the cooperation that they needed. We also were looking at a different world. We believed that no spill would consume over $50 million worth of damage. After the accident in France, of course, that rose a little bit. Then we thought, well, nothing could ever exceed the $300 plus million that they expended in that incident. Now, of course, we have the question of the Alaskan costs. We have got a bill that will be open-ended if that kind of disaster ever hits again.

Pulling all the elements together was really a 14-year effort as I said before. However, I still am not convinced that the shippers and the private sector facility people are totally aware of what the potential damages really are in terms of liability limits and the insurances that they are going to have to contract. I think that private sector will be driven and will look to cooperate with everyone, from the state to the Federal officials, and bring together their portions of a contingency plan. They will also be driven to exercise caution in order to prevent these kinds of oil spills and disasters that we have seen around the country.

It seems in the last year, with Galveston and New York City Harbor, we were just on the verge of a disaster that we could not control. However, in every instance, there was enough response. We heard from Mr. Usher today abut the private response. We also heard about the coordination of the Federal and state agencies in getting equipment and trained personnel to those sites quickly enough to make a difference. We have got to make sure that as we go through, these contingency plans, that the resources of personnel that are available to train and the equipment are not only identified but also in a ready state. Everybody realizes, now, an hour or two makes a difference. We need to produce a contingency plan that lists all of the kinds of equipment available. We have to make sure that we have, in-house, the equipment and that it is in working order. It is going to be difficult to provide equipment for every little stream and every little transportation area around the country. So, we have got to get a mobile type of response.

I understand that Marine Pollution Control did some work on the Alaskan spill. This was probably the terrific firsthand kind of experience that you can relate to anything here now. You worked on a scale that perhaps is not going to ever be surpassed. But as Janet mentioned, we have different ecology here, a different water resource, a different kind of tributaries. Even if the oil is skimmed off the top, tar and the heavier deposits may, 2 to 3 years down the line, affect your next salmon run. When those salmon that you mentioned, Gordon, start to disappear, it will not be hard to relate back to an occurrence like this. Even if small, a spill could make a big difference in what survives and what kind of stocking programs you are going to need at a later date.

I do not want to take a lot of time at this point. We will again review your testimony and hopefully we will have some further input from you. We will keep the record open to do just that. We will cross-reference a lot of this testimony; we have found that one of the most difficult things is getting a broad view. For example, what may be available at Marine Pollution Control can supplement what needs to be bought federally. What kind of training the Coast Guard will have and what they can rely on from the private sector has to be kept up-to-date. It may be a monthly kind of exercise. If Marine Pollution moves out to a site in North Carolina for some spill, you have got to know that that equipment is not available on the Great Lakes. They have got to work with the agency so that if something happens here the equipment can be moved or a second contractor will be ready. It should not be a hit or miss proposition anymore.

I think everybody realizes the thrust of this bill, you know. Hopefully, the oil spill bill will give us a strong prevention program and when necessary an adequate response.

Let me turn to Congressman Fred Upton.

Mr. UPTON. Well, thank you very much, Mr. Chairman, and I thank all of you again for your testimony. I think you made some very important points as we look to coordinate efforts and, of course, this experience with the *Jupiter* this last week really sticks in our minds.

There are a couple of things that I would like to point out. Mr. Usher, your comments were particularly timely, in fact, and you have had a wonderful opportunity to be on the scene firsthand, certainly before the legislation passed, and you saw the mistakes that were made with regard to the *Exxon Valdez*. That happened a year and a half ago. Keeping in mind the lack of legislation until it was signed and enacted last month, you were then involved in a number of situations since that time. Maybe we ought to get you out of our state. I am kidding.

You observed and were involved in a number of other accidents. The scenario was much different in terms of the clean-up, and the chain of command that was utilized both with the *American Trader,* as you indicated, and then with the *Megaborg*. Of course, you saw yesterday in Bay City with the *Jupiter* incident. I think you made a very important point, paralleling the chairman's comments, that the private sector a certainly has a major way to involve themselves.

We have seen it with Amoco and its the storage now of booms that will be taking place in the next couple of weeks at a number of sites throughout the Great Lakes. We really saw it with Ashland, who, even though it was not their boat and the *Jupiter* was a state-of-the-art boat, it really was built in 1976, as I recall, double hulled, double lined, and with a trained crew. With Ashland we were able to see a different response from what we saw with Exxon. Exxon was immediately on the scene. They wanted to make sure that every single effort was taken care of as quickly as possible. It did not matter what the cost. The safety and the life of it was top concern and certainly to the environment. It is a much different situation and we really averted what could have been a major disaster on the other side of the state.

I think that the dialogue of the entire panel here told us that we can learn from our mistakes, as we did. It is unfortunate that this legislation was not passed when the Chairman was first elected to Congress in the early seventies.

Mr. Nowak. I was not chairman.

Mr. Upton. You were not chairman either. OK. He has only been chairman three years, and I have only been on the committee for four years. But we need groups like yours to prod us and to watch. This is particularly important now as we see the implementation of this legislation take place. I make this point for the record because I missed on the last panel; I would like to see from some of the organizations that are cataloging, finding out where we have the resources.

One of the things that came out yesterday was we had enough foam. Only because of the exercise the previous week did they know where all the foam was. It was on hand, and it stopped, you know, what would have been a major problem. Only foam would have put out the fire on Monday and then the subsequent fire that erupted a day later.

But one of the problems that we saw and one of the reasons why a response team is so needed for the Great Lakes area is that, even though we had the foam, we did not have the equipment anywhere close to actually use. To use the foam to put out the fire, and we had to have a C-130, Coast Guard C-130 fly from Florida to Texas to pick up the equipment to then fly in to Bay City.

From what I understand, that was patented equipment. It was not available anyplace else. You shake your head, Mr. Usher. Are you agreeing with me?

Mr. USHER. No, I am disagreeing.

Mr. UPTON. Well, why did they go to Texas? Did you have the equipment in Michigan?

Mr. USHER. Yes, the equipment was available, but you have got to understand that the particular group that was asked to come up and fight the fire were experts. There was a lack of coordination from that standpoint. They were not aware that the equipment was available here.

We had two three-gun monitors that were onsite and still are, and I am not debating the issue as to why they used it. As a matter of fact, really, it was a very few hours after the team arrived from Texas that their equipment had come in, but it is a misnomer, it is a—in the sense that there was not equipment available.

These people did come over and see our equipment. It was adequate but they decided to use theirs because, of course, they are used to their equipment, but to say that the equipment was not available is not really so, and I am glad that I had the chance to correct the record on that.

Also, if I may say, even though the exercise existed, and I think greatly of what occurred with the exercise, certainly a company like Dow, which did have the foam material, the DNR, the fire departments and agencies like that, including ourselves, would be aware of their availability and also 3M.

So, I do not want to be negative, but I certainly want to correct the record where, you know, the information should be pertinent to you as you requested.

Mr. UPTON. Thank you.

That is all that I have.

Mr. NOWAK. Well, I think, you know, that that is a perfect example of the coordination hopefully that will develop out of the contingency plan. A whole total force review would bring the emergency people at the state, the county, the local, and the town level the same information so they can react and bring those—both personnel and equipment that we needed in a specific instance.

Once again, let me thank you for all your testimony. As I said, we will cross-reference your testimony and follow the implementation of the law to make sure it works after 14 years of writing this thing.

Again, thank you very much for your presence here today. The meeting now stands adjourned.

[Whereupon, at 11:50 a.m., the subcommittee adjourned.]

PREPARED STATEMENTS OF WITNESSES

ILLINOIS INTERNATIONAL PORT DISTRICT
Helen A. Brohl, Director of Marketing & Maritime

THE PORT OF CHICAGO OIL CONTAINMENT EXERCISES

On Monday, May 21, 1990, the first field exercise in containment and clean up of a simulated major oil spill on the Great Lakes was held in Calumet Harbor at the Port of Chicago. This day-long exercise deployed heavy ocean, oil containment booms to close off the harbor, corral oil around a simulated vessel, provide a safety zone at the mouth of the Calumet River and practice a U-shaped tow for oil containment. The exercise was the result of public and private sector coordination to address concerns about the Port's ability to respond to major oil spills.

Funded primarily by the private sector, the U.S. Coast Guard Marine Safety Office in Chicago coordinated the exercise with the goal of revising the Captain of the Port's oil spill contingency plan. In fact, the exercise was more than successful in just assessing better coordination techniques pertinent to a contingency plan. Deficiencies in equipment and procedures were revealed so clearly to a major oil spill clean-up company and the U.S. Coast Guard that immediate action was taken to keep 1500 feet of large ocean boom readily available and to adjust methodology to the demanding environment of Lake Michigan.

A follow-up exercise was held on July 24, 1990 when the Chicago Marine Safety Office coordinated the deployment of the Coast Guard Atlantic Strike Team Open Water Oil Containment and Recovery System from Mobile, Alabama to the Illinois International Port District's Iroquois Landing in Calumet Harbor, Chicago. Only this system is sufficient for containment of spills beyond 100,000 gallons in the Chicago and Great Lakes area. Yet, the deployment, from beginning to end, with advance planning took almost 12 hours. Hours which would be imperative in the protection of the closed, contained environment of Southern Lake Michigan.

On March 24, 1989, the Exxon Valdez ran aground in Alaska's Prince William Sound dumping almost 11 million gallons of crude oil into the surrounding area. The immensity of the spill and the impact to the environment was overwhelming. However, one of the most disturbing aspects of the spill was to acknowledge that the U.S. Government and private sector were not prepared to control, handle and clean it up. In fact, the United States Coast Guard acknowledges it is not prepared to respond to major oil spills over 100,000 gallons. [GAO RCED-90-83].

Loosely speaking, oil is any petroleum-based product which may float on the water. As defined by the Federal Water Pollution Control Act, this would also include animal and vegetable oils. This is an important distinction for the Great Lakes and its adjacent waterways. For while there is little crude oil moving across these waters, there is a great deal of "oil" moving by barge and vessel. It is this oil to which we generally refer in the Great Lakes and to which our oil boom deployment exercise was directed. It should also be noted that a large amount of liquid bulk movements on the Lakes and in Chicago are chemicals which may mix with the water and which are not handled through the use of the oil spill booms deployed during these exercises, and may actually damage or dissolve typical plastic boom material. This is a separate issue which will be addressed in follow-up contingency planning but was not part of the first-phase, oil spill planning.

In the U.S. Coast Guard "Captain of the Port" of Chicago zone [Waukegan, Il. to Portage, In. on Lake Michigan, which includes the commercial port of Chicago and along the inland river system of the Illinois waterway to Lincoln, Il.], there are 5300 bulk oil and bulk liquid chemical transfers per year which are considered dangerous cargoes as defined by Coast Guard Regulations. [Source MSO, Chicago]. Liquid bulk products move to and from Chicago all year round, being handled directly to shore-side facilities or transferred to barge along the Calumet River system. The Illinois International Port District has an 800,000 barrel storage capacity through its Stolt Terminals facility but a great deal is lightered at the mouth of the Calumet River in Calumet Harbor for shipment to points on the Illinois River.

Super tankers the nature in size of the Exxon Valdez cannot fit into the Great Lakes because of the restrictive lock system and draft. The largest capacity of any vessel on the Great Lakes is reported to be the Cleveland Tankers' M/V Gemini as the largest American-flag oil tanker, with six tanks and capacity at 11,000 to 13,000 barrels a piece. The largest lake barge tanker is the Amoco Great Lakes with a capacity of 2.9 million gallons. The Cleveland Tankers Saturn and Jupiter have capacities of 2.0 and 2.3 million gallons respectively. All of the large tankers, like most of the tank vessels operating in the southern Lake Michigan area have double hulls. This is a fortunate fact not generally understood by the general public. The Finnish company, Neste, owns the Kiisla which serves Chicago year-round from Sarnia, Ontario. She is also a double-hulled tanker with ice-breaking capabilities and a capacity of of 6350 metric tons. The Kiisla may be in Chicago once a week during the winter and spring, making direct transfers into Stolt Terminals or onto barge. The Enerchem Catalyst is a lakes tanker also serving Chicago year-round with a 3.9 million gallon capacity, carried in 24 different tanks. These are some examples of common tankers and capacities.

One reason that an oil spill contingency plan for the breakwater at Calumet Harbor in particular was important is because of the magnitude of the oil spill threat from tank vessel operations there. The issue is complicated by the fact that the area of the Calumet Harbor breakwater is actually in Indiana waters. The Port District has no jurisdiction and while we have recently begun promoting the idea of transshipments in the protected harbor of Lake Calumet as compared to the breakwater, union pressures and, in some cases, the lack of desire of vessel operators to transit the additional six miles of river, keep the vessels outside and within those Indiana waters. Given that the shipowners choose the less protected waters, the Port District and the USCG Marine Safety Office, Chicago felt that a field exercise at that location was appropriate.

The Illinois International Port District does not have responsibility for clean-up and oversight of liquid transfers. We are a landlord port with public responsibility to promote the commercial shipping of the area. Our value is in our capabilities to liaison on behalf of the private sector with the proper government agencies with oversight in these areas. The Chicago shipping community is very responsive to such efforts and should be commended for the extraordinary participation in the oil containment exercise.

The U.S. Coast Guard, Marine Safety Office, Chicago is charged with pollution response duties for 2000 square miles of southwestern Lake Michigan, including commercial harbors, and the Calumet River. Additionally, they are to respond to spills from commercial vessels and regulated waterfront facilities on the inland river system from Chicago to Lacon, Illinois. [Source, MSO, Chicago]. It is important to understand these distinctions for individual ports in order to recognize the capabilities and limitations of addressing the issue of oil spill response.

The Great Lakes are classified under Coast Guard regulations as part of the inland waterway system. Therefore, a major spill is considered anything over 10,000 gallons. Major spills for salt-water ports are considered greater than 100,000 gallons. The worst case scenario for an oil spill in Chicago is considered 750,000 gallons based on standard damage stability criteria of a two vessel collision.

The Marine Safety Offices are expected by Washington, D.C. to handle any spills themselves (not calling in outside help, whether it be a Coast Guard strike team or private clean-up company) of up to 50,000 gallons. However, they are expected to do this without having any equipment to do so. There are no marine safety offices within the Great Lakes, 9th Coast Guard District which maintain their own inventory of pollution clean-up equipment. Therefore, if a spill gets "federalized" - meaning that the responsible party cannot be found or refuses to take responsibility for a clean-up such that the U.S. Coast Guard takes at least interim financial responsibility - the marine safety office has to call in equipment from private sources. This is not negative if the equipment is available.

The Illinois International Port District initiated discussion with the Marine Safety Office, Chicago shortly after the Exxon Valdez incident to discuss oil spill response. Representatives from the U.S. and Illinois Environmental Protection Agencies and Stolt Terminals were included. The Marine Safety Office then initiated an inventory assessment of clean-up equipment in the southwest Lake Michigan area. In assessing availability of equipment, it is important to note whether the equipment is available from a given company or, in fact, is subcontracted from elsewhere. There can be a severe inflation of the amount and type of equipment reported because of the overlap of reported subcontractors.

The U.S. Coast Guard Atlantic Strike Team maintains 13 open water oil containment and recovery systems (OWOCR's). These are air deployable, oil containment barriers, 612 feet in length systems which are currently kept in Mobile, Alabama and part of a strike team oil spill response which would be called on in spills greater than 10,000 gallons in the Great Lakes. The current response time through the strike force is dependent upon the availability of a C130 or C140

Coast Guard plane which would fly to Mobile, Alabama for pick-up and the time it would take to get the system(s) delivered to Chicago O'Hare's National Air Guard with transfer to the Port area. The U.S. Navy Supervisor of Salvage in Yorktown, Virginia also provides heavy equipment similar to the Coast Guard strike team and owns several 22 foot oil skimmers which were proven very effective in the Exxon Valdez cleanup.

Equipment can only be delivered to airports which have special off-load vehicles called "K"-loaders to move the large, heavy equipment boxes. Two of these vehicles are currently available at the U.S. Air Force Reserve 928th Tactical Air Group at O'Hare Airport in Chicago.

The Marine Safety Office in Chicago had planned a field exercise to fly the equipment from Mobile, Alabama in September of 1989 but was called off due to Hurricane Hugo. Another exercise to fly the equipment in but not deploy was scheduled and performed on the 24th of July 1990. Prior to that date, it was evident that, given the limited and inconvenient access to Coast Guard equipment, there was a need for understanding the extent to which the private sector could be relied upon for clean-up.

Clean Harbors, Inc. is a Boston-based clean-up company which now has an office in the Illinois International Port District at Lake Calumet in Chicago. While they are considered the largest oil-spill clean-up company on the East Coast of the United States, they are involved in a wide-range of clean-up services which maintain the business between catastrophes.

Clean Harbors agreed to bring 1500 feet of 36 inch ocean boom into Chicago for a field exercise when it was recognized that the U.S. Coast Guard could not fund any part of the project. Vessels and equipment were also supplied through area Coast Guard rescue stations, the Chicago Water Reclammation District, the Chicago Police, Marine Unit, local towing companies, and a local Coast Guard auxiliarist. Keep in mind that Coast Guard rescue stations and marine safety offices are handled out of different divisions of the Coast Guard and cannot be assumed to automatically coordinate activities.

Overall coordination remained with the Coast Guard Marine Safety Office, Chicago Captain of the Port. Efforts were made to include as observers or in manpower assistance, representatives from companies with direct or indirect interest in oil spill response which included but was not limited to: Amoco Oil, USEPA, IEPA, American Commercial Barge Line, Stolt Terminals, Great Lakes Towing, ship agents, Midwest Tankerman, Oil-Dri (oil absorption suppliers), and the Kiisla. A local cruise boat company provided an enclosed boat for viewing.

The weather was very good for assessing the capabilities of boom containment because of a 1 to 2 foot chop with strong northeasterly breezes which would push an oil spill toward the mouth of the Calumet River. Four exercises were determined to be of importance: deployment of boom to shut off breakwater, deployment of boom around an anchored barge to enclose a spill, deployment of boom across the mouth of the Calumet River, and a practice horse-shoe tow employing two boats in a 1 knot tow as a way to capture oil on the open water.

Deployment was made from boat ramps in Calumet Park, adjacent to the Port District's Iroquois Landing in Calumet Harbor. Deployment directly out of the back of semi-trucks into the water where shallow-draft boats can tow the boom to more powerful boats was convenient at water's edge. Ten boats, ranging in size from 18 feet to 45 feet were provided by the groups mentioned above. However, towing the boom to the harbor from shore was a problem because of broken tow lines and broken boom connections.

In summary, 24 inch booms with 12 inch skirts which had already been readily available in the Chicago area were virtually of no value for containment in Calumet Harbor. There may be applicability for such boom in more protected waters. The minimum boom size needed in Calumet Harbor was a 36 inch boom with 24 inch skirt. Fifteen-hundred feet of this ocean-size boom was deployed by Clean Harbors, Inc. However, the deployment and handling of the boom was much more difficult than Clean Harbors had expected due to the wind and chop of Lake Michigan. Six people were used to deploy the boom out of the trucks and into the water but it was clear that 12 would be much more efficient.

The shorter chop in the Lake caused contractor's towing lines and brass fittings on the ocean boom to snap minutes after they began towing the boom into the harbor. Given the long-distance towing problem from shore, Coast Guard will seek to use deck barges which have been loaded with the equipment and towed to the spill area. It was suggested that cable and stainless steel fittings would be necessary. The U.S. Corps of Engineers will allow permanent eye-hooks to be installed along the breakwater so that attachment of the booms will be easier.

The minimum size boats and engine power needed for this work was a 22 footer with twin 100 horsepower engines. The engine power was not sufficient on the 18 footers supplied by Clean Harbors and stress on the man-power too great for working all day in a two foot chop. Clean Harbors also found that the radios used in their communications were inadequate and will now upgrade. Additionally, there were shortages of gasoline for the smaller boats but this may be eliminated when larger boats with larger tanks are strictly employed.

Overall the exercise went very well given the equipment available. Most boom for each exercise was deployed within one hour. Having multiple tow boats meant that once a boom was under tow to a destination, others could move in for additional deployment. What was not thoroughly assessed was the need for multiple crews should a real containment be necessary. The Coast Guard auxiliary assisted with getting food to boat crews who could not leave a manned position but longer deployments and clean-up efforts would require additional crews.

The most positive aspect of the project was that Clean Harbors has agreed to leave 1500 feet of the large ocean boom in Chicago. This gives the Chicago area quick response for moderate spills which may occur - a far better situation than existed prior to the field exercise. Clean Harbors also learned that Lake Michigan is not akin to a pond and much more demanding than the protected coastal harbors on the eastern seaboard.

The Marine Safety Office in Chicago adjusted the oil spill contingency plan accordingly. The chain of command for the exercise was very good and the private and other public sector towing capabilities are in place for a strike team response.

The Port of Chicago is now better prepared to respond to an oil spill quickly. This does not take the place of proper Coast Guard strike team equipment. The July 1990 exercise showed that the time it takes to respond to a spill in Calumet Harbor, Chicago will be approximately 11 to 12 hours, minimum. It took approximately 5 hours to prepare, stow and ready the Coast Guard C130 plane for flight. There was 3 hours flying time to Chicago, an hour-and-a-half of unloading the plane and loading the trucks, one hour of driving time to the Port with 30 minutes to one hour to set up the equipment. Since the equipment was not actually deployed into the water, this does not include that additional set-up time. Despite the almost 12 hours to respond, the exercise went very well. There were no hitches in the deployment itself. Twelve hours is just not a fast enough response for catastrophic spills in Southern Lake Michigan or elsewhere in the Great Lakes.

The Illinois International Port District is working with its Congressional delegation and testified to the House Committee on Public Works and Transportation, Subcommittee on Water Resources toward the purchase of such equipment for the Great Lakes. Yet, we believe that the very expensive purchase of a Strike Force

Containment System is only one part of the equation in oil spill clean-up. An ounce of prevention is worth a pound of cure. If more money were put into hiring the proper Coast Guard inspection personnel, many incidents may be prevented since most spills occur by repeat offenders.

Additionally, money should be allocated to fund oil spill response exercises. Currently, the U.S. Coast Guard cannot fund oil pollution response drills from either the 311 K fund or the CERCLA fund. Funding for major oil spill response exercises is necessary to maintain the readiness of local response teams mandated by the National Contingency Plan. It is also necessary to continue the safe and efficient handling of oils and related liquid bulks for the sake of our environment and commerce.

Helen A. Brohl is the Director for Marketing and Maritime Affairs for the Illinois International Port District/Chicago. Her background includes five years in Washington, D.C. with the U. S. Department of Transportation, the National Oceanic and Atmopsheric Administration and as a professional staff member of the House Merchant Marine and Fisheries Committee. Ms. Brohl also worked as a scientist with The Ohio State University Center for Lake Erie Area Research and has a Bachelor of Science degree in Coastal Geology from Florida Atlantic University and Master of Science Degree in Great Lakes Land and Water Use Policy from Ohio State University.

STATEMENT OF MR. DANIEL H. BUMGARNER, DEPUTY ASSISTANT REGIONAL DIRECTOR OF FISHERIES, REGION 3, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF INTERIOR, BEFORE THE HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE, SUBCOMMITTEE ON WATER RESOURCES, CONCERNING OIL SPILLS AND THE OIL POLLUTION ACT OF 1990

SEPTEMBER 21, 1990

MR. CHAIRMAN, I AM DANIEL H. BUMGARNER, DEPUTY ASSISTANT REGIONAL DIRECTOR OF FISHERIES FOR THE U.S. FISH AND WILDLIFE SERVICE, NORTH CENTRAL REGION. I APPRECIATE THE OPPORTUNITY TO BE HERE TODAY TO DISCUSS THE IMPACTS OF OIL SPILLS ON FISH AND WILDLIFE AND MY AGENCY'S INTENTIONS IN IMPLEMENTING THE OIL POLLUTION ACT OF 1990.

EFFECTS OF AN OIL SPILL IN THE GREAT LAKES

THE WATERS AND RELATED COASTAL ECOSYSTEMS OF THE GREAT LAKES ARE RECOGNIZED AS BEING OF OUTSTANDING VALUE TO FISH AND WILDLIFE AND VARIOUS USER GROUPS. THE DIVERSITY AND ABUNDANCE OF FISH AND WILDLIFE RESOURCES IN THE LAKES AND THEIR CONNECTING CHANNELS IS WELL KNOWN AND DOCUMENTED. BECAUSE OF THIS GREAT DIVERSITY AND LIKELY SIGNIFICANT DIFFERENCES IN EFFECTS, DEPENDING ON GEOGRAPHIC LOCATION AND SPATIAL EXTENT, AS WELL AS OTHER FACTORS, MY TESTIMONY WILL FOCUS ON TWO LEVELS OF SPECIFICITY RELATIVE TO THE EFFECTS OF A MAJOR SPILL. THE FIRST LEVEL FOCUSES ON SOME OF THE GENERIC FACTORS THAT ARE LIKELY TO BE IMPORTANT IN RESPONDING TO A SPILL RELATIVE TO FISH AND WILDLIFE EFFECTS. THE SECOND LEVEL FOCUSES ON SOME OF THE KNOWN EFFECTS OF A MAJOR SPILL EITHER THROUGH GREAT LAKES EXPERIENCE OR ELSEWHERE.

THE FIRST LEVEL INVOLVES CONSIDERATION OF FIVE VARIABLES IN ORDER TO RECOGNIZE POTENTIAL ADVERSE EFFECTS ON FISH AND WILDLIFE RESOURCES. THESE FIVE VARIABLES SET THE TONE FOR A FIRST-CUT LOOK AT THE SEVERITY AND DURATION OF A MAJOR SPILL: 1) THE TYPE OF OIL OR HAZARDOUS MATERIAL IS IMPORTANT BECAUSE ITS PHYSICAL AND CHEMICAL PROPERTIES INFLUENCE TOXICITY, VOLATILITY, SOLUBILITY AND DENSITY (ITS ABILITY TO FLOAT OR SINK); 2) VESSEL OR FACILITY TYPE AND DESIGN DICTATE CERTAIN VOLUME RELEASE POTENTIAL AS WELL AS RELEASE RATE; 3) TIME OF YEAR IS CRITICAL TO DETERMINE POTENTIAL FISH AND WILDLIFE RESOURCES AT RISK BECAUSE OF THEIR CHANGING LIFE HISTORY REQUIREMENTS AND MIGRATORY BEHAVIOR; 4) WEATHER CHARACTERISTICS PLAY AN IMPORTANT ROLE IN EFFECTS, ESPECIALLY TEMPERATURE AND WIND DIRECTION; AND 5) HYDROLOGY PLAYS AN IMPORTANT ROLE IN DETERMINING POTENTIAL EFFECTS BECAUSE OF SURFACE AND BOTTOM CURRENTS, AS WELL AS INTERNAL CIRCULATION OF LARGE EMBAYMENTS, FLOW RATES THROUGH CHANNELS AND BEHIND ISLANDS OF THE CHANNELS, AND LITTORAL DRIFT ALONG THE MAIN LAKE SHORELINES.

SOME OTHER FACTORS WHICH ARE IMPORTANT IN THIS FIRST LEVEL OF SPECIFICITY INVOLVE DIFFERENTIATING RESOURCE EFFECTS AS BEING DIRECT OR INDIRECT. FOR EXAMPLE, DIRECT EFFECTS INCLUDE OILING, DIRECT LETHALITY, AND HABITAT LOSS VIA SMOTHERING OF AQUATIC PLANTS AND AQUATIC INSECTS. THESE CAN BE SHORT-TERM EFFECTS. INDIRECT EFFECTS INCLUDE FOOD CHAIN IMPACTS (LOSS OF FORAGE ORGANISMS), HABITAT LOSS TO SPECIES THAT USE THE AREA AT A DIFFERENT TIME OF YEAR THAN THE SPILL OCCURRED. THESE EFFECTS MIGHT BE CONSIDERABLY LONGER IN DURATION, SPANNING MONTHS TO YEARS FOLLOWING A SPILL. MANY DIFFERENT HABITATS COULD BE AFFECTED IN A MAJOR SPILL ON THE LAKES.

IMPACTS TO FISH AND WILDLIFE RELATING TO THE TIME OF YEAR INVOLVE SUCH THINGS AS ANADROMOUS FISH MIGRATIONS, SPAWNING SEASON OF FISH, NURSERY AND BREEDING HABITAT NEEDS FOR FISH AND WILDLIFE SPECIES, AND WINTERING HABITAT AND STAGING AREA SELECTION BY FISH AND WILDLIFE. THE DIRECT, IMMEDIATE EFFECTS ON SOME SPECIES MIGHT BE MINOR IN COMPARISON TO THE SEASONAL EFFECT UPON OTHER SPECIES WHEN THEIR USE OF AN IMPACTED HABITAT IS REQUIRED LATER ALONG THE SPILL TIME LINE (I.E. THE SPRING FOLLOWING A FALL OR WINTER SPILL).

LIFE STAGES AND SOCIAL CHARACTERISTICS OF SPECIES WILL ALSO MAKE A DIFFERENCE IN A SPILL SITUATION. SOCIAL SPECIES SUCH AS MIGRATORY SHOREBIRDS AND COLONIAL NESTING GULLS, HERONS, TERNS, AND CORMORANTS COULD RECEIVE CONSIDERABLE EXPOSURE DEPENDING ON THE VARIABLES AND FACTORS MENTIONED PREVIOUSLY. SOLITARY SPECIES LIKE OWLS AND HAWKS COULD RECEIVE INSIGNIFICANT EXPOSURE DURING MOST PERIODS OF THE YEAR. EXCEPTIONS COULD OCCUR DURING PEAK MIGRATIONS ALONG "LEADING LINES" LIKE THE WEST SHORE OF GREEN BAY IN LAKE MICHIGAN OR IN HIGH VALUE COASTAL WETLAND/ISLAND COMPLEXES LIKE THE ST. CLAIR RIVER DELTA MARSHES AND LAKE SUPERIOR'S MARSHES GENERALLY.

WATERFOWL CAN BE IMPACTED IN COASTAL WETLANDS AS BREEDING POPULATIONS OR AS MIGRATORY POPULATIONS UTILIZING PLANTS AND AQUATIC INVERTEBRATES IN STAGING/STOPOVER LOCATIONS IN THE CONNECTING CHANNELS, MAJOR BAYS, RIVER MOUTHS AND HARBOR AREAS. THREATENED AND ENDANGERED SPECIES SUCH AS THE BALD EAGLE AND PIPING PLOVER COULD BE ADVERSELY EXPOSED EITHER DIRECTLY OR

THROUGH OILED OR REOILED SHORELINES. WITH RESPECT TO CERTAIN ENDANGERED SPECIES, SUCH AS THE BALD EAGLE, THEIR LOW DENSITIES, AND WIDE SPATIAL DISTRIBUTION MAKE LOSS OF ENTIRE POPULATIONS UNLIKELY. BUT FOR THE PIPING PLOVER THE LOSS OF A FEW INDIVIDUALS MAY CAUSE JEOPARDY TO THE POPULATION. THE FOOD HABITS OF INDIVIDUAL SPECIES COULD ALSO BE A FACTOR IN THEIR SUSCEPTIBILITY TO A MAJOR SPILL. OSPREY MIGHT CONTINUE TO FIND FISH IN CLEAR WATER AREAS ADJACENT TO A SPILL WHEREAS A BALD EAGLE MIGHT BE ATTRACTED TO THE SPILL TO "OPPORTUNISTICALLY" TAKE ADVANTAGE OF AN OILED DUCK OR GULL. ANY SCAVENGING SPECIES IN A SPILL AREA WOULD BE AT SIGNIFICANT RISK OWING TO ITS PREFERENCE FOR DISABLED, DYING OR DEAD FORAGE.

THE SECOND LEVEL OF SPECIFICITY INVOLVES SOME OF THE MORE NOTICEABLE AND IMPORTANT SITE-SPECIFIC CONCERNS RELATED TO OIL SPILLS OR OIL POLLUTION IN THE GREAT LAKES AND ELSEWHERE. SIGNIFICANT LOSS OF RESOURCE VALUES ARE KNOWN TO OCCUR FROM THE PRESENCE OF OIL POLLUTION CAUSED BY HISTORIC POINT AND NONPOINT SOURCE DISCHARGES THAT SPANNED DECADES. IN MANY INSTANCES, THESE AREAS OF CHRONIC POLLUTION HAVE BEEN AND ARE BEING ADDRESSED AS PART OF THE ONGOING PLANNING PROCESS ASSOCIATED WITH THE GREAT LAKES WATER QUALITY AGREEMENT (DEVELOPMENT OF REMEDIAL ACTION PLANS FOR AREAS OF CONCERN) AND SUPPORTING PROGRAMS SUCH AS THE ASSESSMENT AND REMEDIATION OF CONTAMINATED SEDIMENTS, UNDER SECTION 118 OF THE CLEAN WATER ACT.

THE SERVICE HAS BEEN INVOLVED IN THE CHARACTERIZATION AND INTERPRETATION OF SEDIMENT CHEMISTRY, TOXICITY AND BENTHIC INVERTEBRATE POPULATIONS IN THESE STUDY AREAS. CERTAIN

DEPOSITIONAL ZONE SEDIMENTS ARE KNOWN TO BE HEAVILY CONTAMINATED WITH OIL AND GREASE POLLUTION. BIOASSAYS HAVE SHOWN CONSIDERABLE BENTHIC TEST ORGANISM TOXICITY AND BIOASSAYS WITH NONINDIGENOUS INDICATOR ORGANISMS CONFIRM THIS TOXICITY. BENTHIC INVERTEBRATES HAVE BEEN SIGNIFICANTLY REDUCED IN NUMBERS WHERE OIL AND OTHER POLLUTANTS ARE KNOWN TO BE AT ELEVATED CONCENTRATIONS IN SEDIMENTS. THIS HAS BEEN OBSERVED IN THE ST. MARY'S RIVER, DETROIT RIVER AND INDIANA HARBOR, TO NAME THE MOST SERIOUS SITUATIONS. OIL FROM A MAJOR SPILL MUST BE VIEWED AS AN ADDITIONAL IMPACT TO MANY DISCRETE AREAS OF THE LAKES ALREADY AFFECTED BY MANY POLLUTANTS. THE INCREMENTAL EFFECTS OF SPILLED OIL WILL BE IMPORTANT IN AREAS ALREADY IMPACTED BY PAST SPILLS AND CHRONIC DISCHARGES, MAKING ANY REHABILITATION MORE DIFFICULT AND EXPENSIVE.

SPILLS COULD ALSO CAUSE SIGNIFICANT IMPACT TO POPULATIONS OF WILDLIFE, PARTICULARLY WATERFOWL BECAUSE OF NEW "ATTRACTIONS" OF FORAGE ORGANISMS. FOR EXAMPLE, THE ZEBRA MUSSEL, A NEW INVADING SPECIES, HAS TAKEN A SIGNIFICANT FOOTHOLD IN LAKE ST. CLAIR AND LAKE ERIE. DIVING DUCKS, PARTICULARLY SCAUP, ARE NOW UTILIZING ZEBRA MUSSELS AS A FORAGE SOURCE. SO DRAMATIC IS THEIR INTEREST IN THESE MUSSELS THAT SCAUP HAVE ESSENTIALLY CHANGED THEIR STAGING AREA ON LAKE ST. CLAIR TO TAKE ADVANTAGE OF THIS INCREASING FOOD SOURCE. WHILE A WATERFOWL MANAGER MIGHT BE EXCITED WITH A NEW FOOD SOURCE CRITICAL TO SUSTAINING WATERFOWL, ANY WATERFOWL MANAGEMENT PLAN WILL NEED TO CONSIDER THE POTENTIAL FOR CONCENTRATING WATERFOWL IN MUSSEL BED AREAS THAT ARE HIGHLY SUSCEPTIBLE TO A MAJOR SPILL. LAKE ST. CLAIR APPEARS TO BE

PARTICULARLY VULNERABLE TO A SITUATION SUCH AS THIS WITH THOUSANDS OF WATERFOWL RESTING AND FEEDING OVER A PARTICULAR AREA.

CONVERSELY, SPECIES SUCH AS MINK AND RIVER OTTER ARE NOT EXPECTED TO BE SIGNIFICANTLY AFFECTED AT THIS POINT IN TIME, SINCE THESE POPULATIONS HAVE BEEN CONSIDERABLY REDUCED AS A RESULT OF CHRONIC PCB POLLUTION AND HABITAT ALTERATION IN THE GREAT LAKES. BOTH SPECIES ARE NOW QUITE RARE ALONG SHORELINES AND LOWER TRIBUTARY REACHES FLOWING INTO THE LAKES.

SPILL RESPONSE NEEDS FOR THE GREAT LAKES

ROLES AND RESPONSIBILITIES FOR SPILL RESPONSE HAVE BEEN IDENTIFIED UNDER THE FISH AND WILDLIFE SERVICE RESPONSE PLAN FOR DISCHARGE OF OIL AND RELEASE OF HAZARDOUS SUBSTANCES (APRIL 18, 1986), AS WELL AS SERVICE REGIONAL RESPONSE PLANS. HOWEVER, TRAINING TO ADEQUATELY EXECUTE THESE DUTIES IS CRITICALLY NEEDED BY ALL PERSONNEL. FOREMOST AMONG THESE TRAINING NEEDS ARE HAZARDOUS SUBSTANCE SPILL RESPONSE AND SAFETY TRAINING, WILDLIFE CARE AND REHABILITATION, ENVIRONMENTAL SAMPLING AND DAMAGE ASSESSMENTS, AS WELL AS MEDIA/PUBLIC RELATIONS ASPECTS. THIS DEFICIENCY IN PREPAREDNESS IS DUE MOSTLY TO THE LACK OF SERVICE PERSONNEL WHO HAVE THESE ISSUES TO CONTEND WITH AS A FULL-TIME DUTY. EXISTING PERSONNEL ARE PRIMARILY RESPONSIBLE FOR COORDINATING RESPONSE TO A SPILL AND PROVIDING TECHNICAL ASSISTANCE TO THE ON-SCENE COORDINATOR.

ANOTHER NEED IS THE STOCKING OF ADEQUATE CONTAINMENT AND CLEAN-UP EQUIPMENT FOR SPILLS IN ENVIRONMENTALLY SENSITIVE AREAS.

MOBILIZATION OF CONTRACTORS IS OFTEN A LENGTHY PROCESS COMPOUNDED BY EXTENDED EQUIPMENT TRANSPORTATION DISTANCES. IN CERTAIN SITUATIONS, A PREEMPTIVE ATTEMPT TO ISOLATE KEY HABITATS IS THE MOST EFFECTIVE WAY TO PROTECT TRUSTEE RESOURCES. CURRENTLY, WE HAVE NO CAPABILITY TO ISOLATE AREAS WITH BOOMS, AND HAVE NO EQUIPMENT THAT IS STORED EXCLUSIVELY FOR THAT PURPOSE. TRADITIONALLY, ON SCENE COORDINATORS PLACED HIGHER PRIORITY ON VARIOUS HUMAN HEALTH AND WATER SUPPLY CONSIDERATIONS WHEN UTILIZING EMERGENCY RESPONSE RESOURCES. THIS SHOULD NOT BE VIEWED NEGATIVELY REGARDING A RESPONSE. IT DOES HOWEVER EMPHASIZE THE POTENTIAL FOR NATURAL RESOURCE TRADEOFFS DURING INITIAL RESPONSES THAT COULD INCREASE NATURAL RESOURCE INJURIES AND GREATER COSTS IN ASSESSING DAMAGES TO THOSE RESOURCES.

IN THOSE INSTANCES WHERE WILDLIFE CLEANING AND REHABILITATION IS REQUIRED, PREDESIGNATED PERSONNEL, EQUIPMENT, AND FACILITIES ARE NECESSARY. THE SERVICE CURRENTLY HAS MINIMAL WILDLIFE COLLECTION AND CLEANING EQUIPMENT AVAILABLE IN THE GREAT LAKES VICINITY. SERVICE PERSONNEL, AS WELL AS GROUPS, AND INDIVIDUALS, THE SERVICE MAY CONTACT TO REHABILITATE MIGRATORY BIRDS AND OTHER WILDLIFE SHOULD RECEIVE TRAINING NECESSARY FOR COMPLIANCE WITH SAFETY RULES. SERVICE PERSONNEL IN THE GREAT LAKES CURRENTLY DO NOT HAVE THE TRAINING TO PERFORM IN THIS CAPACITY OR TO OVERSEE VOLUNTEERS.

OIL POLLUTION ACT OF 1990

THE OIL POLLUTION ACT OF 1990 INCREASES THE SERVICE'S RESPONSIBILITIES AND ABILITY TO DEAL WITH OIL SPILLS IN THREE

MAJOR AREAS: 1) CONTINGENCY PLANNING AND TRAINING, 2) NATURAL RESOURCE DAMAGE ASSESSMENT AND RESTORATION, AND 3) RESEARCH ON OIL SPILLS. THE FOLLOWING DISCUSSION IS NECESSARILY GENERAL BECAUSE THE ACT WAS PASSED ONLY RECENTLY AFTER CONSIDERABLE DEBATE OVER DIFFERING PROVISIONS, AND THE FACT THAT ORGANIZATIONAL AND FUNDING DETAILS ARE STILL BEING WORKED OUT AMONG THE MANY AGENCIES RESPONSIBLE FOR IMPLEMENTING IT.

MANY ACTIVITIES COVERED BY THE NEW ACT REQUIRE INCREASED PARTICIPATION BY THE SERVICE, WITHIN SHORT STATUTORY DEADLINES. UNFORTUNATELY, NO FUNDS HAVE BEEN APPROPRIATED OR PERSONNEL ADDED FOR THOSE ENHANCED RESPONSIBILITIES, EVEN THOUGH THE NEW OIL SPILL LIABILITY TRUST FUND IS AUTHORIZED TO SUPPORT THOSE ACTIVITIES. THE ONE EXCEPTION TO THIS, INITIATION OF NATURAL RESOURCE DAMAGE ASSESSMENTS, REQUIRES NO FURTHER APPROPRIATION. HOWEVER, IT IS UNCLEAR HOW MUCH OF THE $50 MILLION APPROPRIATED FOR OIL SPILL RESPONSE AND DAMAGE ASSESSMENT IS AVAILABLE TO THE SERVICE. THE SERVICE MUST INITIATE ASSESSMENTS IMMEDIATELY FOLLOWING OIL SPILLS AS REQUIRED BY THE ACT; NEGOTIATIONS ARE UNDER WAY WITH THE AGENCIES IN CONTROL OF THE FUND REGARDING HOW MUCH OF THAT FUND MAY BE RESERVED FOR USE BY TRUSTEES TO INITIATE DAMAGE ASSESSMENT.

INCREASED RESPONSIBILITIES FOR RESPONSE AND CONTINGENCY PLANNING INCLUDE THE ESTABLISHMENT OF LOCAL AREA COMMITTEES AND DEVELOPMENT OF AREA CONTINGENCY PLANS (ACP), WHICH MUST CONTAIN SIGNIFICANT NEW PLANNING EFFORTS FOR "PROTECTION OF SENSITIVE ENVIRONMENTAL AREAS, AND PROTECTION, RESCUE, AND REHABILITATION OF FISHERIES AND WILDLIFE." WE UNDERSTAND THERE WILL LIKELY BE THIRTY OR MORE OF

THESE AREA COMMITTEES AND PLANS, EACH OF WHICH WILL REQUIRE SIGNIFICANT CONTINUING INVOLVEMENT BY SERVICE PERSONNEL.

IN ADDITION, THE NATIONAL CONTINGENCY PLAN (NCP) IS TO BE UPDATED TO INCLUDE "A FISH AND WILDLIFE RESPONSE PLAN", DEVELOPED IN CONSULTATION WITH THE UNITED STATES FISH AND WILDLIFE SERVICE (AND OTHERS), FOR THE IMMEDIATE AND EFFECTIVE PROTECTION, RESCUE, AND REHABILITATION OF, AND THE MINIMIZATION OF RISK OF DAMAGE TO, FISH AND WILDLIFE RESOURCES AND THEIR HABITAT THAT ARE HARMED OR THAT MAY BE JEOPARDIZED BY A DISCHARGE." BOTH THE REVISION OF THE NCP AND DEVELOPMENT OF THE ACP'S HAVE STATUTORY DEADLINES AND WILL REQUIRE CONSIDERABLE EFFORT FROM THE SERVICE WELL IN ADVANCE OF THE NORMAL BUDGETING CYCLE. OUR ESTIMATE IS THAT BETWEEN 20 AND 25 PERSONNEL WILL BE NEEDED TO INITIATE THE PLANNING. AFTER INITIATION, WE WILL BE ABLE TO DETERMINE THE APPROPRIATE NEEDS TO PROPERLY MEET OUR OBLIGATION.

THE ACT INSTRUCTS THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TO PREPARE NEW DAMAGE ASSESSMENT REGULATIONS FOR OIL SPILLS, IN CONSULTATION WITH THE SERVICE. THE LEVEL OF COMMITMENT BY THE SERVICE FOR THIS WORK IS STILL UNDER REVIEW, BUT WILL BE SIGNIFICANT.

SEVERAL PROVISIONS IN THE ACT CALL FOR INCREASED RESEARCH ON THE EFFECTS OF OIL SPILLS ON NATURAL RESOURCES, TO IMPROVE KNOWLEDGE OF RESTORATION TECHNIQUES, AND IMPROVE KNOWLEDGE OF THE EFFECT OF DISPERSANTS ON FISH AND WILDLIFE. THE SERVICE SUPPORTS THE CALL FOR ADDITIONAL WORK IN THESE AREAS. MANY AGENCIES WILL BE INVOLVED IN DEVELOPING THIS RESEARCH AND CARRYING IT OUT. THE

SERVICE'S ROLE IS DEALT WITH IN TITLE VII OF THE ACT. IN ADDITION, THE SERVICE IS CAREFULLY CONSIDERING ITS OTHER NEW RESPONSIBILITIES AND ITS NEEDS FOR MEETING THOSE RESPONSIBILITIES.

THIS ENDS MY PREPARED TESTIMONY TODAY. I WOULD BE HAPPY TO RESPOND TO ANY QUESTIONS THAT YOU MAY HAVE.

STATEMENT OF
HANS J. CRUMP-WIESNER, DEPUTY DIRECTOR
EMERGENCY RESPONSE DIVISION
OFFICE OF SOLID WASTE AND EMERGENCY RESPONSE
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
COMMITTE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES
U.S. HOUSE OF REPRESENTATIVES

SEPTEMBER 21, 1990

Mr. Chairman and members of the Subcommittee, I am Hans J. Crump-Wiesner, Deputy Director of the Emergency Response Division, in the Office of Solid Waste and Emergency Response, at the U.S. Environmental Protection Agency (EPA). My responsibilities include management of EPA's emergency response program. The Oil Pollution Act of 1990, the Clean Water Act, and the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 provide authority for responding to releases of oil and hazardous substances into waters of the United States and the environment, respectively. I appreciate this opportunity to discuss EPA's role in preventing and responding to spills of oil and hazardous substances into the Great Lakes.

SPILL PREVENTION

EPA's primary responsibility for spill prevention in the Great Lakes Basin is administering -- for non-transportation-related facilities -- the oil spill prevention program that is authorized by section 311(j)(1)(C) of the Clean Water Act. EPA's Oil Pollution Prevention regulation (40 CFR Part 112) requires non-transportation-related facilities that may reasonably be expected to cause a discharge of oil to U.S. waters to prepare and implement a spill prevention, control, and countermeasures (SPCC) plan. This regulation requires facilities to develop design and engineering plans, including the installation of certain equipment such as barriers, pumps, and drains providing secondary containment. In those rare circumstances in which it is impracticable to install some form of secondary containment, however, facility owners or operators may substitute a detailed oil spill contingency plan. All SPCC plans must be certified by a licensed Professional Engineer.

Following the Ashland Oil Company oil spill on January 2, 1988, into the Monongahela River, near Floreffe, Pennsylvania, EPA established an interagency task force to review the Oil Pollution Prevention regulation and other Federal oil spill program requirements. The Oil Spill Prevention, Control, and Countermeasures Program Task Force recommended, among other things, that EPA strengthen certain provisions in the regulation, establish a notification system, and expand the regulation to require that non-transportation-related facilities prepare and implement facility-specific oil spill contingency plans. EPA is addressing these recommendations in two phases. Phase One would address existing regulatory language and notification procedures. EPA intends to seek comment from the regulated community and other concerned parties in Phase Two regarding ways in which a contingency planning requirement may be implemented.

In the Great Lakes basin area of EPA Region 5, which encompasses the majority of the Great Lakes basin, the numbers of inspections that have been conducted for EPA compliance with the Oil Pollution Prevention regulation in the past four years are estimated to be: 159 inspections in Fiscal Year (FY) 1986, 100 inspections in FY 1987, 42 inspections in FY 1988, and 46 inspections in FY 1989. In FY 1990, the Agency conducted approximately 70 inspections in the Region V area of the Great Lakes basin. The inspections in the Great Lakes basin area generally reveal that more than 90 percent of the large bulk oil storage facilities comply with the substantive requirements of the regulation. Small facilities have a lower compliance rate, ranging from approximately 50 percent compliance for secondary oil distribution facilities to as low as 10 percent compliance for some industrial users of oil.

Greater emphasis on spill prevention is a clear mandate of the Oil Pollution Act of 1990, which became law on August 18th. The Coast Guard, for example, is given a wide range of responsibilities for regulations, studies, and other activities directed towards prevention of future spills from vessels. In FY 1991, EPA intends to significantly increase the number of inspections conducted under its existing SPCC program.

CONTINGENCY PLANNING AND SPILL RESPONSE

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) is used to coordinate preparedness and response activities of Federal agencies during an oil spill or hazardous substances incident. It currently establishes three organizational levels: the National Response Team (NRT), Regional Response Teams (RRTs), and On-Scene Coordinators (OSCs). The NRT, with EPA as Chairman and the Coast Guard as Vice-Chairman, is primarily a national planning, policy, and coordinating body and does not normally respond directly to incidents. The NRT provides policy guidance prior to an incident, and assistance during an incident of national or international significance or when otherwise requested by an RRT. NRT assistance usually takes the form of technical advice, access to additional resources or coordination with appropriate RRTs, but it may also involve deliberation on issues of policy.

There are thirteen standing RRTs nationwide, one for each of the ten standard Federal Regions, plus one each for Alaska, the Caribbean, and the Pacific Basin. The Region 2 (New York and New Jersey), 3 (Pennsylvania, Delaware, Maryland, Virginia, West Virginia, and District of Columbia), and 5 (Wisconsin, Illinois, Indiana, Ohio, and Michigan) RRTs share the responsibility of coordinating response activities for the Great Lakes region in the event of a release of oil or hazardous substances, depending on the location of the incident. Each RRT maintains a Regional Contingency Plan (RCP) and has State, as well as Federal, government representation. EPA and the Coast Guard co-chair the RRTs. Like the NRT, RRTs are in large part planning, policy, and coordinating bodies. RRTs provide guidance to OSCs in the regional plan prior to and during an incident, and the RRT agencies necessary for the response (incident-specific RRT) provide assistance as requested by the OSC. If the assistance requested by an OSC exceeds an RRT's capability, the RRT may request assistance from the NRT.

Depending on the location of an oil or hazardous substance spill, either an EPA or Coast Guard official assumes the role of Federal OSC. The Coast Guard has jurisdiction for spills in the coastal zone and commercially navigable waters of the Great Lakes and major river ports, such as Detroit. EPA's jurisdiction is generally over spills that threaten inland waters. Therefore, EPA normally would play a support role to the Coast Guard in responding to an accident on the Great Lakes themselves, but would lead the Federal response to an inland spill within the Great Lakes basin. The OSC is responsible for monitoring the cleanup, or actually conducting the response action when the responsible party is not capable of responding or is not performing adequately, or when the response is beyond the capability of State or local resources. The OSC has complete Federal responsibility for on-scene actions to prevent, contain, assure cleanup of, or otherwise mitigate spills of oil or hazardous substances. An OSC's authority includes the ability to make any or all decisions necessary to protect public health and the environment.

Before the enactment of the Oil Pollution Act of 1990, the fund established under section 311(k) of the Clean Water Act was used to support Federal oil spill response activities. The new law replaces the 311(k) fund with a new, much larger Oil Spill Liability Trust Fund. This transfer to a new funding mechanism has occurred without a break in response program continuity or a need to halt any ongoing activities. The President has delegated to the Secretary of Transportation the authority to use the new Fund for response to spills, and the Secretary has delegated this authority to the Coast Guard.

Along with the NCP and RCPs, there are many local plans that have been developed over the years. In consultation with the RRT and affected States, OSCs develop and maintain, where practicable and necessary, OSC plans for their area of responsibility. These OSC plans must incorporate the appropriate provisions of the Regional and National Contingency Plans. OSC plans are required for all areas in the coastal zone, and have been prepared for all major port areas, including those in the Great Lakes.

Also of particular interest in the Great Lakes region is the fact that the U.S. and Canada now have a Joint Marine Pollution Contingency Plan in place. A Joint Plan to cover the inland border area is currently under development. At the present time, EPA Regions are planning and participating in exercises concerning response to releases of oil and hazardous substances potentially affecting the environment along the U.S.-Canadian border.

On September 11-13, 1990, EPA participated in a major exercise named "CANUSLAK 90", during which a collision between ships in the St. Clair River was simulated. The exercise involved the U.S. Coast Guard, the Canadian Coast Guard, the State of Michigan, and several Federal agencies on the Regional Response Team. Oranges were placed in the river to simulate an oil spill, and booms and other oil spill control equipment were deployed. This is the first major simulation exercise which has been held since the new oil spill law was passed.

Enhanced contingency planning is one of the key initiatives of the new oil spill law. The President is required to designate both coastal and inland areas by February 18, 1990 for which Area Contingency Plans are to be prepared, and to establish Area Committees to prepare such plans under the direction of OSCs. These plans must, among other things, be adequate to remove a worst-case discharge and must describe areas of special economic or environmental importance that might be damaged by a spill. Furthermore, private sector responsibilities have been expanded and enhanced. Onshore facilities that can cause "substantial harm" in the event of a worst-case spill must prepare response plans based on new regulations. Liability limits have also been increased.

Well before the enactment of the oil spill law, efforts were underway to evaluate the state of contingency planning across the nation for "worst-case" spill scenarios. Specifically, the Report to the President on the Exxon Valdez oil spill included a recommendation that an analysis of the state of contingency planning be conducted. Subsequently, the RRTs, EPA Regions, and a number of other Federal entities were directed by the NRT to postulate worst-case scenarios and evaluate and report on the state of their contingency plans for dealing with such a situation. That evaluation has been completed and the NRT will soon be reporting on its conclusions.

EPA estimates that in 1987, 2,284 reported releases of oil and 1,043 reported releases of hazardous substances affected the Great Lakes basin, which includes rivers that flow into the Great Lakes. In 1988, there were an estimated 2,166 releases of oil into the Great Lakes basin and 1,107 reported releases of hazardous substances.

The new law provides authority for a larger Federal response role when reported releases have been federalized. District Response Groups will be established in each Coast Guard District, including the Great Lakes area, to provide technical assistance to OSCs. The President is required to direct all Federal, State, and private removal actions for discharges posing a substantial threat to the public health or welfare. Periodic inspections of removal equipment and drills of removal capability, without prior notice, are also required. For its part, EPA will participate with the U.S. Coast Guard in developing criteria and procedures for inspections of containment booms, skimmers, and other major equipment used in removal actions.

The Act also requires revisions to the NCP, including a fish and wildlife response plan, procedures and standards for removing a worst-case oil discharge, and procedures for coordinating the activities of Coast Guard strike teams, OSCs, District Response Groups, and Area Committees. In addition, the NCP will include a list of spill mitigating devices and substances, taking into account long- and short-term effects on the environment.

EPA has already begun implementing its responsibilities under the Act. The Agency is establishing several workgroups that will be charged with developing the regulations, studies, and other analyses necessary to implement the law, and is assisting other agencies in carrying out their responsibilities. At the same time, EPA recognizes that some of these actions will require a considerable amount of time; therefore, the Agency will be preparing interim guidance in selected areas, such as the preparation of facility response plans.

GREAT LAKES PROVISIONS

Two provisions in the Oil Pollution Act are specific to the Great Lakes. One provision seeks to correct a deficiency in existing law by modifying the requirements regarding which individuals may serve as pilots on undesignated Great Lakes waters. Foreign masters granted a "B certificate" by the Canadian government, for example, are eliminated for eligibility as pilots, because the "B certificate" standard is lower than that imposed by the United States on its pilots. The second provision, which is broader in scope, requires the Secretary of State, in consultation with EPA and other agencies, to review relevant international agreements to determine whether amendments or additional international agreements are necessary to: (1) prevent discharges of oil into the Great Lakes; (2) ensure an immediate and effective removal of oil from the Great Lakes; and (3) fully compensate those who are injured by a discharge of oil into the Great Lakes. The Secretary of State is required to report to Congress on the results of this review by February 18, 1991.

SUMMARY

The Oil Pollution Act of 1990 expands the responsibilities of both the public and private sectors with regard to oil spill prevention, contingency planning, and response. EPA is moving ahead with its ongoing programs in these areas and is committed to prompt implementation of the Act.

This concludes my statement, Mr. Chairman. I will be happy to answer any questions you or the Committee members may have.

TESTIMONY BEFORE THE SUBCOMMITTEE ON WATER RESOURCES PUBLIC WORKS AND TRANSPORTATION COMMITTEE

September 21, 1990

9:15 a.m.
Community Center
Grand Haven, Michigan

Statement by:

Dr. Michael J. Donahue
Executive Director

Great Lakes Commission
The Argus II Building
400 Fourth Street
Ann Arbor, MI 48103-4816
Phone: 313-665-9135
Fax: 313-665-4370

Great Lakes
Commission

INTRODUCTION

I am pleased to be here on behalf of the eight member states of the Great Lakes Commission to speak to the issue of emergency preparedness for oil and hazardous material spills on the Great Lakes. I commend you for your initiative in conducting this hearing and, speaking for the entire Commission membership, thank you for your continuing support for our cause - the informed use, development and protection of the world's greatest freshwater resource.

The Great Lakes Commission - an interstate compact agency that advocates the interests of the eight Great Lakes states - has a vital interest in the topic of today's hearing. The Commission has not and will not stand by and allow environmental or economic destruction of our region's greatest asset through misuse, neglect or ill-conceived policy and legislation. Furthermore, the Commission will not compromise the region's potential by failing to seize any and all opportunities to advocate the interests and concerns of its member states.

The passage and prospective implementation of P.L. 101-380, the Oil Pollution Act of 1990, provides one such opportunity. In my remarks today, I will speak to the importance of the spill prevention and response issue; the region's response and accomplishments to date; and opportunities for continuing action. In so doing, I wish to emphasize a critical point: The goals and objectives of the Oil Pollution Act of 1990 are laudable. The provisions are sensitive to the special requirements of the Great Lakes. The Act has the potential to provide the framework needed to ensure a region-wide state of emergency preparedness. But the proof will be in the implementation and a public-private sector partnership approach will be the primary determinant of success. The advice, guidance and expertise of the Great Lakes states - both singly and collectively - will factor into that success and must be accommodated in the implementation process.

THE GREAT LAKES: AN EXPANSIVE YET VULNERABLE RESOURCE

The Great Lakes region encompasses an extensive and intensively used freshwater resource and is the locus for the production and transport of substantial quantities of oil and hazardous materials. As a result, the potential of a spill with devastating environmental, human health and economic consequences clearly exists in the Great Lakes region. The much-publicized Exxon Valdez incident in Prince William Sound has focused attention on this region's ability to anticipate, respond to and prevent oil and hazardous material spills.

Oil and hazardous materials comprise less than five percent of total St. Lawrence Seaway traffic, but these quantities are nevertheless substantial. For example, figures from the Lake Carriers' Association and Canadian Shipowners Association indicate that 81 million barrels of such materials were transported on Great Lakes waterways in 1988. Almost fifty ports on the Great Lakes either load or receive oil and hazardous materials; countless other facilities on the Lakes and connecting channels are involved in handling such materials.

The U.S. and Canadian Coast Guards reported 492 oil and toxic spills on the Great Lakes in 1988, up from 384 in 1987 and 401 in 1986. Since 1986, the U.S. share has doubled. Approximately 85% of these have been oil spills, with the balance involving toxic chemicals. Three fourths were land based and one-fourth were the result of shipping incidents. While most of the documented spills have been small in volume, oil spills of up to a million gallons and toxic spills of up to 200,000 gallons have been experienced since 1984.

The Great Lakes are uniquely vulnerable to such spills. Even quantities of only a fraction of the estimated 10 million gallons of oil released in the Exxon Valdez incident pose substantial threats to the Great Lakes ecosystem. The Great Lakes are a relatively closed freshwater system - a series of large lakes with long retention times. The system provides drinking water to over 25 million residents, and many of the hundreds of water supply intakes are located on connecting channels, in heavily navigated waters, or near shore-side industrial facilities where oil and hazardous materials are handled. Further, the Great Lakes Basin is a fragile, highly sensitive ecosystem that includes a thriving sport fishery and some of the world's most productive freshwater wetlands. These facts, coupled with the added difficulties in containing spills under ice or spills of water-soluble toxics, accentuate the vulnerability of the Great Lakes. Clearly, a spill of any magnitude has the potential for devastating environmental, human health and economic impacts.

REGIONAL RESPONSE AND ACCOMPLISHMENTS TO DATE

The Exxon Valdez incident prompted considerable activity in the Great Lakes region at the federal, state, provincial and local levels. Existing emergency preparedness plans and resources were reassessed, interjurisdictional arrangements examined, and legislative, program and funding requirements defined. Much of this activity continues at present.

At the regional (interstate/provincial) level, progress has been made as well. Responding to a request from Governor Blanchard (MI), the Great Lakes Commission agreed on June 22 of last year to facilitate a regional review of emergency preparedness, working in collaboration with the Council of Great Lakes Governors. Soon thereafter, an Emergency Preparedness Task Force was established with federal, state, provincial and regional representation. Also, on July 29 of last year the Great Lakes Governors signed a "Great Lakes Oil Spill Control Strategy Agreement" calling for several measures to "further protect the lakes from the potentially devastating impacts of possible oil spills and hazardous substances contamination".

The Commission and Council convened a multi-jurisdictional Emergency Preparedness Task Force soon thereafter (August 22), to develop recommendations for a strategy and plan of work to help the region's jurisdictions strengthen their individual and collective capabilities to anticipate, respond to and prevent oil and hazardous material spills. Specific objectives included 1) developing an inventory of oil and other potentially hazardous substances transported on and stored in the Basin; 2) developing an inventory of available emergency preparedness resources in the Great Lakes; and 3) in so doing, strengthening individual federal, state and provincial programs.

A policy statement was adopted in November 1989 presenting a series of findings and recommendations in the areas of spill response capabilities of Great Lakes jurisdictions; the U.S. federal role in spill response and prevention; data collection and inventory needs; research, technology and education needs and vessel safety. (See Attachment #1) Under the shared leadership of the Great Lakes Commission and Council of Great Lakes Governors, several initiatives are underway.

1) The two organizations aggressively - and successfully - lobbied for federal legislation that would strengthen Great Lakes spill prevention and response capabilities. The Great Lakes Commission urged House and Senate conferees and staff to include language that requires at lease one spill response center located within the Great Lakes Basin; provides research and development funds to accommodate the unique requirements of the Great Lakes, including the development of technologies that will permit response to under-ice and water soluble toxic spills; and provides the direction and funding necessary to fully implement existing regulatory, enforcement, inspection and monitoring responsibilities of the U.S. Coast Guard, the U.S. Environmental Protection Agency and other relevant federal agencies.

   President Bush signed the Oil Pollution Act of 1990 into law last month and I'm pleased to say that its provisions accommodate the needs expressed by the Great Lakes Commission and other regional interests.

2) The Great Lakes Commission has prepared and is distributing a summary report on the status of emergency preparedness programs at the federal, state and provincial levels. The document will be used to enhance regional coordination and response efforts.

3) In cooperation with the U.S. Coast Guard Ninth District, a computerized inventory of public and private sector spill response equipment, personnel and related resources is being undertaken. This is a massive, precedent-setting initiative that will provide public officials - at all levels - with instant access to vital information in the event of a spill. A Basin survey will be sent to hundreds of recipients in more than 20 different categories this fall. The inventory will be operated out of the Hazardous Materials Information Exchange - a joint Federal Emergency Management Agency/Dept. of Transportation service.

   It should also be noted that the new federal legislation provides for a national inventory; we will work with appropriate officials to determine how regional efforts to date can contribute to - or become part of that effort.

4) The Emergency Preparedness Task Force has prepared a set of criteria by which local and state governments can evaluate existing emergency response plans and strengthen their attention to Great Lakes, interstate and state-provincial matters These criteria are being widely distributed through Task Force members. (See Attachment #2).

OPPORTUNITIES FOR CONTINUING ACTION

The Great Lakes Commission applauds the passage of the Oil Pollution Act of 1990, and the members of the Great Lakes Congressional Delegation that were instrumental in that process. At the regional and national levels we are learning at last to abandon our crisis-response mentality for one that embraces the merits of proactive planning. As the saying goes, we are beginning to realize that it is better to "anticipate and prevent" than it is to "sin and repent". The *Exxon Valdez* incident has taught us that much.

The accomplishments to date - both in Congress and in the Great Lakes region - have been notable, but much work has yet to be done. We at the Great Lakes Commission urge you to consider the following items as implementation of the federal Oil Pollution Act of 1990 - and related initiatives - move forward.

1) Every effort must be made to ensure that implementation of the new Act addresses the special requirements of the Great Lakes. Criteria must be established for the location of the Great Lakes spill response center, taking into account vessel traffic patterns; equipment availability; airlift capabilities; shoreside storage and transfer facilities; access to expert personnel; spill response time and many others. A studied and objective decision must be made based upon such criteria. The Great Lakes Commission, in cooperation with other regional interests; will assist by developing and presenting such criteria to appropriate state and federal policymakers.

2) The new Act authorizes six million dollars annually for a national research and development program. Of this, the Great Lakes region will receive approximately $600,000. These funds will help fill a long-standing research void relative to spill response issues unique to the Great Lakes. We need technology, for example, that enhances our ability to prevent and respond to under-ice spills, water-soluble toxic spills, and spills near water supply intakes and ecologically sensitive coastal areas. The Interagency Coordinating Committee on Oil Pollution Research, as established under Title VII of the Act, provides for broad-based membership and input into the development of an Oil Pollution Research and Development Program. We urge the U.S. Dept. of Transportation, as Chair of the Coordinating Committee, to make every effort to involve Great Lakes states, universities and research institutes in the research program. The Great Lakes Commission, in cooperation with other regional interests, will assist by identifying critical research needs and criteria that might be used to evaluate Great Lakes-specific research proposals.

3) The Great Lakes Commission is pleased to note that Section 4202 of the Act establishes a National Planning and Response System that will include a "comprehensive computer list of spill

removal resources, personnel and equipment that is available worldwide.....' Such a listing - which would address the Great Lakes - is consistent with the policy position of the Great Lakes Commission and the provisions of the agreement signed by the Great Lakes Governors last year.

Compilation of the inventory should begin with all due speed and accommodate the various information categories recommended by the Great Lakes Commission's Task Force on Emergency Preparedness (see Attachment #3). Furthermore, the inventory should be accessible on a 24 hour per day basis by any local, state or federal official responsible for spill prevention and response efforts on the Great Lakes or elsewhere.

4) We note that many federal agencies generally have the authority at present to undertake many of the regulatory, enforcement, inspection and monitoring programs needed to enhance spill prevention and response capabilities. However, they lack the direction and funding necessary to fully implement them. We look to the Congress and federal agency leadership to address this concern.

5) To date, the majority of the spill prevention and response focus has been directed at waterborne transportation - a reflection of the *Exxon Valdez* incident that prompted national and regional concern. It must be emphasized, however, that commercial vessels account for only a small portion of total spills and, overall, the Great Lakes record is excellent. Any spill control strategy must recognize this and address shoreside spill potential as well as on-water spill potential.

6) At present, emphasis is clearly on the "response end" of the "prevention and response equation." As the new Act is implemented and our emergency preparedness capabilities are enhanced, we must move increasingly into the prevention mode.

7) It is imperative that the Congress and relevant state and federal agencies recognize this issue as a binational one. The U.S. and Canadian Coast Guards coordinate prevention and response activities under the terms of the U.S.-Canada Great Lakes Water Quality Agreement, and joint response plans and exercises. Implementation of the Act must reflect and build upon these relationships.

8) Finally, federal, state and local jurisdictions must be willing to maintain a long standing commitment of personnel, equipment and funds to ensure an adequate state of emergency preparedness in the Great Lakes region. In the absence of a crisis, resources allocated to prevention inherently tend to erode over time. We cannot afford to let this happen.

Regional cooperation is the key to success. An effective spill response and prevention program will require the support of state, federal and local jurisdictions, environmental, resource management, public health and emergency preparedness agencies, all transportation and maritime-related business and industry and an informed and active public.

The challenge before us is one of great magnitude, but pales in comparison to the consequences of inaction. Strengthening our spill response and prevention capabilities now is a sound investment in the future of the world's greatest freshwater resource - the Great Lakes.

STATEMENT REGARDING GREAT LAKES OIL SPILL RESPONSE CAPABILITIES

PRESENTED TO: THE SUBCOMMITTEE ON WATER RESOURCES

PRESENTED BY: JOHN EICHINGER
MICHIGAN UNITED CONSERVATION CLUBS
2101 WOOD ROAD
LANSING, MICHIGAN 48912

SEPTEMBER 21, 1990

I WOULD LIKE TO THANK CHAIRMAN NOWAK, CONGRESSMAN UPTON, AND THE SUBCOMMITTEE ON WATER RESOURCES, ON BEHALF OF MYSELF AND THE 135,000 MEMBERS OF MICHIGAN UNITED CONSERVATION CLUBS, FOR THIS OPPORTUNITY TO PRESENT OUR CONCERNS ABOUT OIL SPILL RESPONSE CAPABILITIES IN THE GREAT LAKES.

AS YOU NO DOUBT ALREADY KNOW, THE GREAT LAKES ARE A FRESHWATER RESOURCE WITHOUT PARALLEL ANYWHERE IN THE WORLD. THE GREAT LAKES BASIN IS POPULATED BY NEARLY FORTY MILLION CITIZENS OF THE UNITED STATES AND CANADA, MANY OF WHOM ARE TOTALLY DEPENDENT UPON THE WATERS OF THE LAKES FOR MUNICIPAL AND INDUSTRIAL WATER SUPPLIES. THE LAKES ALSO SUPPORT A VITAL TOURISM INDUSTRY WHICH BRINGS MANY MILLIONS OF DOLLARS ANNUALLY INTO THE REGIONAL ECONOMY, IMPORTANT SPORT AND COMMERCIAL FISHERIES, AND CRITICAL FISH AND WILDLIFE HABITATS. BECAUSE OF THE FRAGILE NATURE OF THE GREAT LAKES ECOSYSTEM, THESE AND OTHER VALUES WOULD BE SERIOUSLY JEOPARDIZED SHOULD AN OIL SPILL OCCUR.

THE POSSIBILITY OF SUCH A SPILL APPEARS SUBSTANTIAL. THROUGHOUT THE LAKES, PETROLEUM REFINERIES AND STORAGE FACILITIES ARE COMMON ALONG THEIR SHORELINE AND TRIBUTARIES. TANKERS PLYING THE WATERS OF THE LAKES CARRY HUNDREDS OF THOUSANDS OF TONS OF PETROLEUM PRODUCTS EVERY YEAR. EACH OF THOSE FACILITIES, AND EVERY MILE TRAVELLED BY THOSE TANKERS, REPRESENTS A POTENTIAL DISASTER OF TREMENDOUS MAGNITUDE. IN LIGHT OF THE RECENT GASOLINE TANKER DISASTER IN THE SAGINAW RIVER AT BAY CITY, WE ARE UNDERSTANDABLY CONCERNED. ALTHOUGH THIS INCIDENT DOES NOT APPEAR TO BE AS SERIOUS AS IT COULD HAVE BEEN, IT EMPHASIZES THE DANGERS PRESENT EVERY DAY OF THE GREAT LAKES SHIPPING SEASON. THE RECENT EMERGENCY PREPAREDNESS EXERCISE IN THE ST. CLAIR RIVER HAS CLEARLY DEMONSTRATED THAT THE PRESENT ABILITY OF STATE AND FEDERAL AGENCIES TO RESPOND SWIFTLY AND DECISIVELY TO SUCH EVENTS WITHIN GREAT LAKES WATERS IS QUESTIONABLE, AS THE STATE OF DISASTER RESPONSE PLANNING IN THIS REGION LAGS BEHIND THAT OF THE ATLANTIC, PACIFIC, AND GULF COASTS. WE BELIEVE THAT WE HAVE A RESPONSIBILITY TO THE CITIZENS OF THE GREAT LAKES REGION, BOTH AMERICAN AND CANADIAN, TO ELEVATE THE OIL SPILL RESPONSE CAPABILITIES OF ALL PARTICIPATING AGENCIES TO THE HIGHEST PRACTICAL LEVEL. THE PRESENT OIL SPILL PREVENTION AND RESPONSE BILL, RECENTLY SIGNED BY PRESIDENT BUSH, REPRESENTS AN IMPORTANT STEP TOWARD ACHIEVING THE NECESSARY LEVEL OF RESPONSE CAPABILITY. WE TRUST THAT CONGRESS AND THE ADMINISTRATION WILL FOLLOW UP WITH THE NECESSARY COMMITMENT OF FUNDING AND RESOURCES TO DO THE JOB.

I THANK YOU FOR YOUR ATTENTION.

TESTIMONY OF DIRECTOR DAVID F. HALES

STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

BEFORE THE HOUSE SUBCOMMITTEE ON WATER RESOURCES

SEPTEMBER 21,1990

Introduction

Thank you for the opportunity to present testimony to on behalf of Governor James J. Blanchard regarding Great Lakes spill prevention and emergency response. Shortly after the environmental tragedy involving the Exxon Valdez on March 24, 1989, Governor Blanchard directed the Michigan Department of Natural Resources, Office of the Great Lakes, to prepare a report on Michigan's emergency preparedness for oil and other hazardous material spills on the Great Lakes.

The Office of the Great Lakes submitted an interim report to Governor Blanchard outlining its 28-point plan to improve Michigan's spill prevention efforts and response capabilities. As a result of this report, Governor Blanchard asked the Michigan State Police Emergency Management Division to establish a task force to implement this plan to improve Michigan's preparedness for response to oil and hazardous materials spills on Great Lakes waters. This task force has successfully completed implementation of most of these recommendations resulting in the following:

- review and development of contingency plans for immediate notification to water supply facilities to protect drinking water intakes.

- development of cooperative agreements for wildlife rehabilitation centers in the event of a spill.

- inspection of approximately 80 bulk oil storage facilities on or near the Great Lakes, most of which have been completed by the Department of Natural Resources. All remaining Facilities will be inspected by November 1, 1990.

- increased funding for spill cleanup, the Department of Natural Resources' budget for FY 1991 has been increased by $200,000 for this purpose.

- development of a new computer modelling system to facilitate quick response by local health agencies and first responders to identify the potential human health and environmental impact of a spill.

Because of our deep concern about protecting the Great Lakes from spills, one of the first grants made by the Michigan Great Lakes Protection Fund was to Michigan State University to develop a model plan for local emergency management of spills on the Great Lakes. The project will develop and evaluate a model for the area of Lake Michigan from Frankfort through the Straights of Mackinac, including Grand Traverse Bay.

The Governor recently signed legislation to establish a Great Lakes Spill Prevention Research Fund and authorized him to declare a state of emergency when spills pose a danger to the Great Lakes. In Addition, Governor Blanchard directed the Office of the Great Lakes to work with the Council of Great Lakes Governors and the Great Lakes Commission to assess regional response capabilities.

Michigan, chairs a Great Lakes emergency preparedness task force involving the eight Great Lakes states, the province of Ontario, and federal agencies which has developed and initiated several recommendations to improve regional spill response and prevention coordination:

- A summary report on the status of emergency preparedness programs at the federal, state and provincial levels has been prepared and is being distributed. The document will be used to enhance regional coordination and response efforts.

- In cooperation with the U.S Coast Guard, a computerized inventory of public and private sector spill response resources within the Great Lakes region is being undertaken.

- The Task Force has prepared a set of criteria by which local and state governments can evaluate and strengthen existing emergency response plans for spills on the Great Lakes.

However, critical state legislation to establish a 24-hour Michigan Spill Response center was not acted upon by the State Senate after being passed by the House of Representatives last December.

We have learned from the Exxon Valdez and the numerous other accidents that quick response is the key to reducing the devastating damage from oil or hazardous material spills. Establishing such a Center would assure appropriate and speedy response by the appropriate agencies.

The Great Lakes: A Unique and Vulnerable Ecosystem

The Great Lakes are the most important source of fresh surface water in the world. The Lakes contain 95 percent of our nation's and 20 percent of the world's supply of fresh surface water. They are the major drinking water source for nearly 24 million people in eight states and two Canadian provinces. In addition to Governor Blanchard's concern about the damage that would be suffered by the environment in the case of a spill on the Great lakes, he is deeply concerned about providing adequate protection for the more than 60 Michigan drinking water intakes on the Great Lakes.

The Great Lakes are uniquely vulnerable to oil and other hazardous materials spills because they are a relatively closed system. As a closed system, the same water remains in each Lake for long periods of time. Each of the Great Lakes has a regular cycle, or retention time, which is the time required for water to flow out of the Lake. The retention times vary from 2.6 years for Lake Erie to 191 years for Lake Superior. Retention times for Lakes Michigan, Huron, and Ontario are 99.1, 22.6, and six years, respectively. As a result of these long retention times, spills on the Great Lakes have more acute long-term ramifications than oceans which are capable of dispersing materials on much larger areas of open water.

All Michigan surface water intakes are vulnerable to some degree. Detroit's Belle Isle intake is especially vulnerable due to the heavy tanker vessel traffic on the Detroit River and frequent spill events. All of the state's surface water treatment plants have developed contingency plans to address spills and other types of emergencies to the extent possible.

Billions of gallons of Great Lakes water are withdrawn every day for industrial, agricultural, and municipal purposes. Millions of people fish and boat on the waters and live, work, and vacation along the shore. The Great Lakes coastline stretches for 9,000 miles, and Michigan has the largest share with 3,200 miles. Michigan's Great Lakes coastline is longer than the entire Atlantic coast, and second only to that of Alaska's. In terms of size, quantity, and importance, the Great Lakes are indeed a freshwater sea.

Oil and Hazardous Material Traffic on the Great Lakes and Potential Containment and Cleanup Problems

According to information obtained from the Lake Carriers Association and the Canadian Shipowners Association, 81 million barrels of petroleum and hazardous materials were carried in U.S. and Canadian tankers in the Great Lakes waterways in 1989 (18.9 million in U.S. and 62.3 million in Canadian tankers). There are four U.S. tankers owned by two companies and 22 Canadian tankers owned by three companies carrying these products on the Lakes. Although the largest tanker on the Great Lakes holds over 151,000 barrels, the consequences from a spill from such a tanker on the Great Lakes would be extraordinary and disastrous.

We have learned that cleanup efforts are extremely difficult in many areas of the Great Lakes. There are extremely strong currents in the connecting waterways--St. Marys, St. Clair, Detroit, and Niagara Rivers. A spill on the open waters of the Lakes' waters during the region's cold winters would make cleanup exceptionally difficult if a spill occurred in the winter or early spring.

By and large, spills that have occurred have been limited in terms of extend. However, the U.S. Coast Guard reported 264 oil and chemical spills in 1989 on Great Lakes waters. This resulted in over 46,000 gallons of oil products and 22,000 gallons of other hazardous materials being spilled into Great Lakes waters.

Implementing the Oil Spill Liability Legislation

Earlier this year Governor Blanchard called on members of Congress to support key provisions in oil spill legislation then being considered, and recently signed by President Bush to ensure protection of the Great Lakes from the devastating effects of oil and hazardous material spills.

The Governor urged Congress to:

- assure that at least one Emergency Response Center is established within the Great Lakes basin;

- support the development of a computerized inventory of all public and private equipment and personnel available for spill response and to make that information accessible to state, local, and private spill responders;

- support research to develop cleanup technology research appropriate for the Great Lakes, and

- support language requiring that U.S. standards for pilotage be applied to all vessels on the Great Lakes.

Emergency Response Center

Quick and effective response is absolutely critical to the control and containment of any oil or hazardous materials spill.

It is, then, imperative that an emergency response center be established in the Great Lakes Basin. It is essential that the center be centrally located in the basin to ensure availability to both the upper and lower Great Lakes and the connecting channels (Detroit River, St. Clair River, Lakes St. Clair, and the St. Marys

River). The center must include both trained personnel and equipment dedicated to spill containment and cleanup on the Great Lakes, with the necessary expertise to ensure full spill response capabilities necessary to take quick action in the Great Lakes.

The Great Lakes share some of the same complexity and difficult characteristics as the oceans do regarding variable sea conditions, weather conditions, physical properties of the oil spill, darkness, logistics, and safety yet offer additional concerns associated with fresh waters. As Lake waves approach 6-8 feet, a good deal of equipment loses its effectiveness and deployment of the equipment becomes both difficult and dangerous. The use of smaller vessels also becomes more problematic, and it is smaller vessels which are usually available. Weather conditions, including snow, heavy rain, fog and temperature, all affect the ability to deploy equipment. The establishment of a Spill Response Center on the Great Lakes must have the equipment and trained personnel to effectively control spills in these situations.

All of these characteristics taken together, which are similar in many ways to the problems encountered on the oceans, require careful consideration in establishing appropriate response capabilities, including both personnel and equipment.

Great Lakes Spills Research

Governor Blanchard also stressed the need to address Great Lakes spill research. In recent years there has been a lack of cleanup technology research conducted on freshwater systems. Full funding of the Research Center for the Great Lakes is essential to identify and develop the most appropriate technologies for cleaning up spills on the Great Lakes.

In selecting cleanup technology, it is critical that technologies be identified that will not cause greater harm than that allowed by natural processes to cleanse the environment. As an example, it should be noted that the U.S. Environmental Protection Agency has determined that oil dispersants should not be used in fresh water systems. This type of information, in addition to similar statements regarding the acceptability of new technologies such as bioremediation, needs to be documented to assure those responsible for spill cleanups on the Great Lakes have the most up to date information available when it is needed.

Great Lakes Pilotage

Pilotage of Great Lakes vessels is an extremely important issue addressed by the legislation. I am glad to see that the federal legislation provides for elimination of use of the "B Certificate" on the undesignated waters of the Great Lakes.

However, I encourage the Department of Transportation to continue negotiations with Canadian officials to try to encourage the strong standards imposed by the U.S. and Great Lakes pilots.

Spill Response and Cleanup Equipment Inventory

Essential to quick response and spill cleanup is the access to appropriate equipment and support, and that adequate international and interstate agreements exist to handle transboundry spills. The legislation directs the Secretary of State to review relevant international agreements with Canada, with emphasis on the Great Lakes Water Quality Agreement, to ensure international cooperation. The legislation also calls on the President to encourage international organizations to establish an international inventory of emergency removal resources.

I strongly urge the Secretary of State to build upon the efforts of the Great Lakes Regional task force in implementing these measures. The task force provides a mechanism in place to undertake developing a computerized spill resource inventory.

The task force is already working with the U.S. Coast Guard and Hazardous Materials Information Exchange, a cooperative effort of federal, state and regional agencies, to develop this computerized inventory. What is needed is a commitment of resources to complete this effort. Appropriate direction to the

Coast Guard could be helpful. The lack of this inventory could seriously restrict efforts to respond to a real Great Lakes spill emergency. I urge this panel to support our effort to move forward with this computerized inventory.

I also strongly support the intent of the legislation to ensure all new vessels are designed using the state-of-the-art construction standards, including double hulls. These standards, in addition to proper vessel inspections on the part of the Coast Guard, are essential to reducing the likelihood of a spill on the Great Lakes in the event of an accident.

As I stated earlier, I thank you for this opportunity to address this Subcommittee and look forward to working with you on implementation of this important legislation.

TESTIMONY ON OIL SPILLS SEPTEMBER 21, 1990

In light of this weeks tanker explosion in the Saginaw River, this hearing on oil spills is very timely. The tanker explosion and fire came just five days after the U.S. and Canadian Coast Guards and state and federal environmental agencies staged a mock oil spill on the St. Clair River. The simulated disaster was used to test the agencies' response.

According to the U.S. Coast Guard, there were 1,800 oil spills in the Great Lakes during the 1980s, but the great majority were minor.

Until last Sunday's disaster, the largest spill in the Great Lakes occurred in December 1976, when a Canadian taker ran aground and dumped 42,000 gallons of diesel fuel in eastern Lake Huron. Virtually all of the fuel was burned off the water before it could cause any environmental damage.

The Michigan Legislature continues to look at the possibility of disasters in the Great Lakes, and during this legislative session, several bills have been introduced, and a few have passed and been signed into law. I will give you a brief analysis of these bills, which I co-sponsored.

House Bill 4929 was signed into law, and is Public Act 49 of 1990, creates the Great Lakes Spill Prevention Research Fund to pay for research on the prevention of spills during the transportation of hazardous substances on the Great Lakes and major tributaries of the Great Lakes, including research into the causes of hazardous spills and the contribution of hazardous substance spills relative to the total pollution of the Great Lakes basin. Money in the fund could be appropriated by the Legislature, and could also come from gifts and contributions.

House Bill 4931, passed in the House, and is currently in the Senate Committee on Appropriations. HB 4931 establishes a state wide data system for spills that will analyze and report causes.

House Bill 4932, also passed in the House last December, and is currently in the Senate Committee on appropriations. HB 4932 deals with a spill prevention program fixed installations and transportation systems.

House Bill 4933, provides immunity for any person assisting in the clean up of hazardous substances in the Great Lakes. This bill was signed into law earlier this year and is Public Act 91 of 1990.

House Bill 4934 directs the Michigan Emergency Preparedness Advisory Council to provide for the development of a statewide emergency spill plan to clean up spills of hazardous substances in the waters of this state by June 1, 1991. HB 4934 presently in the House Committee on Conservation and Environment.

One final piece of legislation which has been signed into law is House Bill 5263, and is Public Act 50 of 1990. This bill changed the name of Emergency Preparedness Act to Emergency Preparedness Plan, and extend the Act's "disaster" provision to "emergencies." The bill outlined the duties and responsibilities of the State Police's Emergency Management Division, specified local units' duties and responsibilities, provided limited immunity from liability to certain parties, revised certain funding requirements, and repeals a section pertaining to the primacy of emergency orders in the event of a foreign attack.

Protecting our water resources is a top priority. I welcome any comments, suggestions, or questions on this issue.

DEPARTMENT OF TRANSPORTATION
U.S. COAST GUARD
STATEMENT OF CAPTAIN ROBERT W. MASON, USCG
ON GREAT LAKES OIL SPILLS
HOUSE OF REPRESENTATIVES SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
21 SEPTEMBER 1990

GOOD MORNING MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE. I AM CAPTAIN BOB MASON, CHIEF OF MARINE SAFETY FOR THE NINTH COAST GUARD DISTRICT. AMONG OTHER DUTIES, I AM RESPONSIBLE FOR MANAGEMENT OF THE COAST GUARD'S MARINE ENVIRONMENTAL PROTECTION PROGRAM IN THE GREAT LAKES REGION. I AM CO-CHAIRMAN OF THE REGIONAL RESPONSE TEAM FOR STANDARD FEDERAL REGION FIVE.

I APPRECIATE THIS OPPORTUNITY TO TESTIFY ON BEHALF OF THE UNITED STATES COAST GUARD REGARDING THE OIL POLLUTION ACT OF 1990.

SUBSEQUENT TO THE EXXON VALDEZ OIL SPILL IN MARCH OF 1989, TREMENDOUS CONCERNS FOR OUR ENVIRONMENT HAVE DEVELOPED. EARLIER THIS YEAR, BOTH HOUSES OF CONGRESS UNANIMOUSLY PASSED LEGISLATION INTENDED TO ADDRESS OIL POLLUTION IN PARTICULAR. THIS LEGISLATION TOOK MORE THAN A YEAR TO COMPLETE. THAT LONG PERIOD OF TIME WAS CERTAINLY NOT DUE TO A LACK OF INTEREST. IT REFLECTED THE COMPLEXITY OF THE ISSUES AND PROBLEMS WHICH ARE INVOLVED.

U.S. Department
of Transportation
**United States
Coast Guard**

Commandant
United States Coast Guard

Washington, D.C. 20593-0001
Staff Symbol
Phone

CAPTAIN ROBERT W. MASON

CHIEF, MARINE SAFETY DIVISION

NINTH COAST GUARD DISTRICT

Captain Robert W. Mason is a 1965 graduate of the U. S. Coast Guard Academy. During his service time, he has served aboard three Coast Guard vessels; the USCGC MATAGORDA, the USCGC PONTCHARTRAIN and the USCGC SHERMAN, in both deck and engineering assignments. Captain Mason is a qualified marine inspector, both deck and engineering, and has served in marine safety tours in the Marine Safety Office Los Angeles/Long Beach; the Merchant Marine Technical Office, Ninth Coast Guard District, Cleveland, Ohio, and three tours in the Office of Merchant Marine Safety in Washington, DC. Captain Mason earned a Masters Degree in Naval Architecture and Marine Engineering from the University of Michigan between tours. He was assigned to the Coast Guard Marine Safety Office in Galveston, Texas in 1984, as the Executive Officer, and was reassigned in 1986, as the Commanding Officer. In those positions, he was the federal on-scene coordinator for over 2000 oil and chemical spills, including the over 10 million gallon spill from the M/V ALVENUS in 1984. He is presently assigned as the Chief, Marine Safety Division, Ninth Coast Guard District in Cleveland, Ohio, where he is responsible for the supervision of all marine safety activities, including pollution response, for all U.S. Coast Guard facilities in the Great Lakes Region.

THE COAST GUARD ANTICIPATES PRESIDENTIAL SIGNATURE OF CORRESPONDING EXECUTIVE ORDERS WHICH WILL TASK VARIOUS FEDERAL AGENCIES WITH IMPLEMENTATION OF THE ACT. FOR MY SERVICE, THIS WILL BE A DIFFICULT, CHALLENGING ASSIGNMENT, MADE EVEN MORE REMARKABLE BY ITS SCOPE, MULTIFACETED OBJECTIVES, AND TRULY DEMANDING TIMELINE. THE NECESSARY REGULATIONS, THREAT ASSESSMENTS, CONTINGENCY PLANNING, AND EQUIPMENT ACQUISITION AND DEPLOYMENT WILL REQUIRE INTERACTION WITH ALL LEVELS OF GOVERNMENT, INDUSTRY, SPECIAL INTEREST GROUPS, AND THE PUBLIC. THIS IS A PROCESS THAT MUST CAREFULLY WEIGH LOCAL INPUT WITH OPERATIONAL CONSIDERATIONS AND GENUINE ENVIRONMENTAL RISK.

THE COAST GUARD WILL PREPOSITION POLLUTION RESPONSE EQUIPMENT IN VARIOUS REGIONS OF THE COUNTRY. DEPLOYMENT OF THIS EQUIPMENT WILL BE PREDICATED ON THE LEVEL OF FUTURE CONGRESSIONAL APPROPRIATIONS. SHOULD APPROPRIATIONS FALL SHORT OF THE TARGET, TOUGH DECISIONS WILL BE MADE REGARDING THE PLACEMENT OF THIS EQUIPMENT. EQUIPMENT SITES WILL BE BASED ON THE POTENTIAL POLLUTION THREAT AND ENVIRONMENTAL SENSITIVITY OF THE REGION. TO THE EXTENT THE GREAT LAKES ARE VIEWED AS BEING VULNERABLE TO OIL SPILLS, EQUIPMENT MAY BE ALLOCATED TO FACILITATE A RAPID RESPONSE TO THE ENTIRE GREAT LAKES BASIN.

THE ACTUAL LOCATION FOR PREPLACEMENT OF FEDERAL OIL SPILL RESPONSE EQUIPMENT WITHIN A GENERAL AREA WILL BE BASED ON SEVERAL FACTORS INCLUDING, BUT NOT LIMITED TO: SUITABLE STORAGE FACILITIES; ACCESS TO AIR, LAND, AND WATER TRANSPORTATION ROUTES; AND EXISTING INDUSTRIAL POLLUTION RESPONSE RESOURCES. THERE ARE NUMEROUS FACTORS THAT WILL BE EVALUATED BEFORE A FINAL DECISION IS MADE.

THE OIL POLLUTION ACT OF 1990 REQUIRES THOSE COMPANIES INVOLVED IN THE STORAGE AND TRANSPORTATION OF OIL TO DEVELOP RESPONSE PLANS FOR WORST CASE OIL SPILLS. IT ALSO REQUIRES THAT THEY HAVE EQUIPMENT AVAILABLE TO IMPLEMENT THESE PLANS. TO MEET THESE REQUIREMENTS, WE FORESEE A SIGNIFICANT EXPANSION OF POLLUTION RESPONSE CAPABILITIES IN THE PRIVATE SECTOR, PARTICULARLY THOSE OF LOCAL AND NATIONAL SPILL RESPONSE COOPERATIVES. THE PRIVATE SECTOR SHARES RESPONSIBILITY IN THE DEVELOPMENT OF A VIABLE POLLUTION RESPONSE CAPABILITY.

FEDERAL AREA CONTINGENCY PLANS WILL BE UPDATED AS REQUIRED BY THE ACT. AREA RESPONSE COMMITTEES WILL BE FORMED FROM QUALIFIED PERSONNEL OF FEDERAL, STATE AND LOCAL AGENCIES, APPOINTED BY THE PRESIDENT. THE COMMITTEE WILL OPERATE UNDER THE DIRECTION OF THE FEDERAL ON-SCENE COORDINATOR FOR THE AREA. EACH COMMITTEE WILL DEVELOP AN AREA CONTINGENCY PLAN ADEQUATE TO: REMOVE A WORST CASE DISCHARGE; INVESTIGATE OR PREVENT A

SUBSTANTIAL THREAT OF SUCH DISCHARGE; AND PRE-PLAN JOINT RESPONSE EFFORTS. THE PROCESS OF MAKING MEMBERSHIP APPOINTMENTS FOR AREA COMMITTEES HAS NOT YET BEGUN. HOWEVER, COAST GUARD FEDERAL ON-SCENE COORDINATORS WOULD WELCOME THE NAMES AND PARTICULARS OF PROSPECTIVE CANDIDATES.

THE OIL POLLUTION ACT OF 1990 IS AN IMPORTANT, COMPLEX LAW. IMPLEMENTATION OF PREVENTION, CONTINGENCY PLANNING, AND RESPONSE ELEMENTS, CALLED FOR BY THE ACT, REPRESENT ONLY A PART OF THE COAST GUARD'S TASKING. EXECUTIVE DELEGATIONS AND CONGRESSIONAL FUNDING IN THE FY1991 BUDGET ARE ALSO IMPORTANT FACTORS IN THIS ENDEAVOR. THE ACQUISITION AND DEPLOYMENT OF POLLUTION RESPONSE CAPABILITIES ARE ESSENTIAL TO FEDERAL PREPAREDNESS. HOWEVER, THE CRITICAL ROLE AND RESPONSIBILITY OF PRIVATE INDUSTRY IN DEVELOPING A PRIMARY RESPONSE CAPABILITY CANNOT BE OVERSTATED.

MR. CHAIRMAN, THIS CONCLUDES MY STATEMENT. I WILL BE GLAD TO ANSWER ANY QUESTIONS THAT YOU OR THE OTHER MEMBERS OF THE SUBCOMMITTEE MAY HAVE.

STATEMENT
OF
JAY T. RODSTEIN
SCIENTIFIC SUPPORT COORDINATOR
HAZARDOUS MATERIALS RESPONSE BRANCH
NATIONAL OCEAN SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE

BEFORE THE

SUBCOMMITTEE ON WATER RESOURCES
COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
HOUSE OF REPRESENTATIVES

SEPTEMBER 21, 1990

Mr. Chairman and Members of the Subcommittee:

I am Jay Rodstein, Scientific Support Coordinator of the Hazardous Materials Response Branch, National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce. Thank you for the opportunity to discuss NOAA's role relating to oil spills in the Great Lakes.

I will briefly describe the organization and function of the Hazardous Materials Response Branch, NOAA's primary oil spill response unit.

Federal On-Scene Coordinators (OSCs) have a number of "special forces" that they can call upon during a spill response. One of these is provided by NOAA through its Hazardous Materials Response Branch, which maintains a team of nine Scientific Support Coordinators (SSCs) regionally located in U.S. Coast Guard Districts around the country to facilitate rapid response. I am the SSC for the Ninth and Second Coast Guard Districts, covering the Great Lakes and Inland Rivers. SSCs are backed by an interdisciplinary group with over a dozen years of experience in oil spill response and expertise in physical oceanography and meteorology, oil weathering and dispersion in marine waters, assessment of the sensitivity of coastal environments, and information management.

SSCs also coordinate and interpret the flow of scientific advice to the OSC from all sources, including all levels of government, universities, and other private entities, and assist the OSC by briefing affected communities on scientific issues that arise during spill response. When not working at a spill, SSCs provide scientific assistance to Regional Response Teams (RRTs) and OSCs in contingency planning and response training.

Over the last decade, the NOAA scientific support team has responded to over 1,500 spills nationwide, of which approximately 100 were in the Great Lakes region. NOAA's goal is to provide the best available scientific information on any technical question in a timely and useful form to enhance substantially the effectiveness of response operations and reduce environmental injury.

Environmental Risks to The Great Lakes Due to Oil Spills

The most significant environmental risks to the Great Lakes from oil spills include effects on water quality, fisheries, wildlife and their habitat. In evaluating these risks, we first look at potential sources of spills and areas most sensitive to spill effects.

Sources Of Spills

Sources of oil spills to the Lakes include vessels carrying petroleum cargoes, fuel of all vessels, and shoreside facilities. Petroleum carriers on the Great Lakes can carry as much as five million gallons of cargo fuel. Other cargo vessels may contain as much as several hundred thousand gallons of fuel. There are approximately thirty ports (map attached) on the Great Lakes at which bulk terminals exist for storage and distribution of petroleum products.

The types of products being transported in bulk are a factor in determining risk due to the various hazards posed by different petroleum products. Petroleum products being transported on the Lakes are primarily refined products. Less than 3 percent of vessel cargoes on the Lakes is crude oil; most crude oil is transported to Great Lakes region refineries by pipeline. Pipeline transport also poses risks where the pipelines cross the Lakes. Although the risk of pipeline spills is considered small, this potential should be evaluated in light of recent incidents in New York Harbor and Pittsburgh.

Refined products transported by vessel are almost evenly divided between gasoline, diesel fuel, and distillates (such as #6 oil/Bunker C). The lighter products, such as gasoline, are more toxic than the distillates and also pose a greater flammability hazard. Lighter products will evaporate more quickly and will result in greater acute toxic effects, while heavier products will persist in the environment for years or decades, depending upon the type of shoreline impacted. The effects of this persistence in freshwater systems are not well documented.

Environmentally Sensitive Areas

Areas most sensitive to oil spill injury include water intakes, and habitat for fish and wildlife. Over 25 million people use the Great Lakes as a source of drinking water. There are numerous drinking water intakes along the shores and interconnecting channels that supply major cities and small towns. Levels of preparedness in communities that draw their drinking water from the Great Lakes vary from alternate sources of supply and sophisticated monitoring and treatment capability to virtually no monitoring, detection, or alternate water supply.

While quality of drinking water is a primary concern due to its potential impact to human health, effects to fish, wildlife, and their habitat can also be significant. The Great Lakes contain over 400 square miles of wetlands in addition to other highly productive habitat. Much of this habitat is located in the interconnecting channels and bays throughout the Lakes. In some cases, the most environmentally sensitive areas are within yards of the shipping lanes. At certain times of the year, such as during spawning, nesting, or migration, these habitats are particularly susceptible to damage from oil spills.

Acute effects from spills may persist from years to decades, depending upon the type of product and shoreline impacted. Certain recreational, aesthetic, and economic resources have not been addressed in these comments but play a role in spill response strategy and overall risks of an oil spill.

Particular Areas at Risk

I have discussed the sources of pollution and the general nature of environmental resources at risk. Now, let me address some particular areas at risk. Petroleum products traverse all shipping lanes of the Great Lakes, which puts them in proximity to highly populated areas, like Buffalo and Chicago, and environmentally sensitive areas, such as the St. Clair Delta.

The greatest potential for a catastrophic spill is along the interconnecting channels of the Great Lakes, specifically the St. Marys River, Detroit-St. Clair River system, and the St. Lawrence River. The danger in these areas is due primarily to increased difficulty in pilotingthese constricted, fast-moving waterways. The most vulnerable areas are where these constricted waterways are in close proximity to water intakes and environmentally sensitive areas. Extra effort has been made to plan for response in these highest risk areas by both United States and Canadian authorities, resulting in Supplements to the Joint Contingency Plan between the two governments.

Other high risk areas include industrial ports, such as those along Lower Lake Michigan, where large shoreside facilities near dense populations pose significant potential for harm. Also, smaller environmentally sensitive areas, such as Upper Lake Michigan where Traverse City serves as a regional fuel distribution terminal, are at risk due to oil spills.

Risk Reduction

These risks can be reduced by eliminating the causes of spills and by improving our capabilities to respond effectively. As the latter is the emphasis of my organization, I will address improvements, some of which are being undertaken and others which are being considered by state and local governments which will enhance response capability and reduce environmental risks.

The scientific aspects of oil spill response in the Great Lakes does not differ significantly from our response along the oceanic coasts. We have some of the same difficulties, including limitations in working with oil in ice, the ability to sense data remotely, and overcoming incompatibilities between data management systems. However, in the Great Lakes we face some additional difficulties. While we get outstanding support from the regional scientific community, including the private sector, universities, and resource management agencies, research into the effects of oil spills and cleanup technologies in freshwater systems is lacking. A literature search has been undertaken by the American Petroleum Institute but to date very little information has been identified.

An example of how these research deficiencies affect response on the Lakes may be shown by examining the philosophy for use of chemical or biological agents for treatment of an oil spill. While the Pacific and Gulf coasts have employed these agents in response to spills and the Atlantic Coast has developed criteria for use, including pre-approved zones, we in the Great Lakes have concluded that the basis for use in the saltwater coasts is not appropriate for proper assessment to the applicability of these agents to fresh water. The studies required for inclusion of chemical agents on the National Contingency Plan Product Schedule, the list of products available for use during a spill, do not address toxicity of freshwater species or parameters for use in freshwater systems.

Risk reduction could also be achieved by extending the existing body of knowledge on environmentally sensitive areas. Environmental Sensitivity Index atlases which have been prepared by the U.S. Coast Guard for 90 percent of the United States coastline, and have been expanded upon and updated in some areas of the oceanic coasts, have been completed for approximately 25 percent of the Great Lakes coast.

The areas which have been mapped are the St. Marys River, Detroit St. Clair River system, Lake Erie, the St. Lawrence River, and the portion of Lake Michigan from Frankfort, Michigan south to the Indiana-Michigan border (attached). These tools, developed by resource management agencies and response decision-makers prior to an incident, reduce the time required to implement protective measures during a response. These are just two examples of how scientific response capabilities can be improved to reduce risks caused by Great Lakes oil spills.

We anticipate a number of changes to NOAA's Activities as a Result of the Oil Pollution Act of 1990 (PL 101-380).

The Act will result in greater NOAA involvement in oil spill preparedness, response, and assessment of damages to natural resources.

(1) NOAA will be the lead agency in the development of damage assessment regulations (section 1006 (e)).

(2) Federal natural resource trustees will now have immediate access to funds to initiate damage assessment studies on-scene during the early hours of a spill event (section 6002 (b)).

(3) NOAA will be represented on committees established pursuant to the Pollution Research and Development Program (Title VII).

(4) NOAA will have a significant role in implementing the provisions of Title V, addressing long-term assessments of Prince William Sound.

(5) NOAA is one of the agencies responsible for developing a fish and wildlife response plan required in the revised National Contingency Plan (section 4201 (b)).

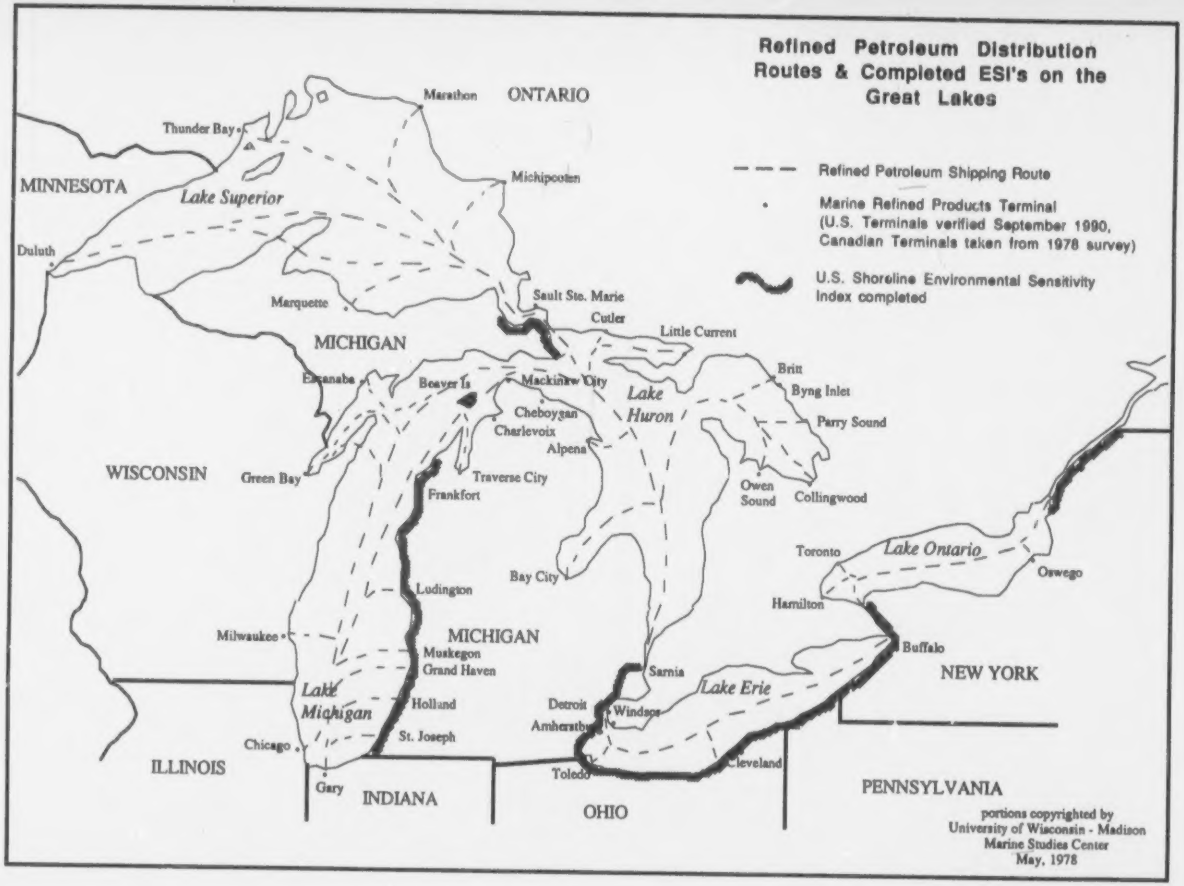
(6) NOAA will be one of the consulting agencies to the U.S. Department of State in the review of United States-Canada Great Lakes and Lake Champlain Oil Spill Cooperation studies (section 3003).

(7) NOAA believe that expanded Uses of the Fund will allow us to more effectively respond to spills (section 1012).

(8) While not a new role, we expect increased participation and consultation with On-Scene Coordinators in the preparation and review of contingency plans and in working with the newly formed

Area Committees, District Response Groups, and the Coast Guard Strike Teams.

Thank you, Mr. Chairman. I will be glad to respond to any questions you may have.



Refined Petroleum Distribution Routes & Completed ESI's on the Great Lakes

Refined Petroleum Shipping Route
Marine Refined Products Terminal (U.S. Terminals verified September 1990, Canadian Terminals taken from 1978 survey)
U.S. Shoreline Environmental Sensitivity Index completed
ONTARIO
MINNESOTA
WISCONSIN
MICHIGAN
MICHIGAN
ILLINOIS
INDIANA
OHIO
PENNSYLVANIA
NEW YORK
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Thunder Bay
Marathon
Michipicoten
Duluth
Marquette
Sault Ste. Marie
Cutler
Little Current
Escanaba
Beaver Is
Mackinaw City
Cheboygan
Charlevoix
Alpena
Britt
Byng Inlet
Parry Sound
Owen Sound
Collingwood
Green Bay
Traverse City
Frankfort
Toronto
Oswego
Hamilton
Bay City
Ludington
Milwaukee
Muskegon
Grand Haven
Holland
Buffalo
Sarnia
Detroit
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Amherstburg
Chicago
St. Joseph
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Cleveland
Gary

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University of Wisconsin - Madison
Marine Studies Center
May, 1978

TESTIMONY

BY

DAVID USHER

PRESIDENT

MARINE POLLUTION CONTROL

AND

PRESIDENT

OF

SPILL CONTROL ASSOCIATION OF AMERICA

BEFORE

THE SUBCOMMITTEE ON WATER RESOURCES

FIELD HEARING ON

OIL SPILL RESPONSE IN THE GREAT LAKES

SEPTEMBER 21, 1990

GRAND HAVEN COMMUNITY CENTER

GRAND HAVEN, MICHIGAN

Thank you very much.

I appreciate the opportunity to participate testify before this committee both as president of Marine Pollution Control and as president of the Spill Control Association of America.

I would like to begin with a brief statement which covers some of the concerns we are discussing here today.

I have been in the spill control business for about 23 years. My company has participated in the cleanup of major oil spills in all parts of the world and we were involved in the Exxon Valdez accident in Alaska. Since then, we helped clean up the spill at Huntington Beach, California and assisted at Mega Borg near Galveston, Texas. We also are presently assisting in Bay City on the M.T. Jupiter accident.

I also would like to add that the Spill Control Association of America represents a sophisticated business. It is composed of companies dedicated to protecting the environment and I am proud to be president of a trade organization which has such an outstanding record.

Having been involved in spill control for more than two decades, I have studied carefully the public reaction to oil spills, particularly after major ones like the Exxon Valdez which create more than their share of publicity.

And while much needs to be done in helping to prevent such disasters, I also want to urge that we not adopt at the federal or local levels unnecessary and costly measures which will do nothing to address the problem.

I would urge careful examination of all the complexities involved in oil spills and adopt comprehensive measures which will assist and not complicate cleanup efforts.

The philosophy of those of us in this industry is simple: We want to work in partnership with government in the development of the most productive legislation and policies possible.

A partnership presently exists and we need to build on that partnership between government, organizations like the Marine Spill Response Corporation, formerly known as the Petroleum Industry Response Organization (PIRO), which represents the oil industry, and the private sector actually engaged in the cleanup of oil spills.

Each has an essential role in oil spills and federal, state and local legislative bodies can help in defining the respective responsibilities.

First, government.

I would suggest that government's role is to monitor and enforce the clean up of oil spills.

That is the role historically played by the Coast Guard and it has done so effectively.

The private sector's continuous participation in cleanup efforts has created in the industry the professional maturity and experience necessary in these situations.

The problem is not with the lack of spill control expertise and ability; the problem is one of response time and coordination----and this is where government---state, federal and local---can help.

It can assist by assuring that response time and coordination is enhanced and monitored. It can help in research and development.

If, however, government finds it necessary to create strike forces in strategic locations---particularly in very remote areas---then I would suggest that the maintenance and operation of the equipment be assigned to the private sector.

As to the Great Lakes particularly, we have the response capability in this area as well. I have testified before several committees of the Michigan State Legislature and appropriate committees in Illinois as well.

We believe we are properly prepared and if U.S. Coast Guard strike teams are created, we hope they follow the criteria outlined by Michigan Senator Carl Levin.

He supports the creation of a strike force center which would be used primarily as a storage facility containing readily-transportable equipment not available in the private sector. He sees such a center supplementing rather than replacing equipment already avaliable in the private sector. As to personnel, he supports the use of responsible contractors and he would not support a federal response center which would be in competition with the private sector.

That is basically our position. We believe it is responsible and in the public interest.

As I have indicated, it would be wasteful duplication to provide government personnel to operate this equipment. Nor would they have the expertise. It is highly unlikely that any one strike force would ever develop the expertise of those of us who are involved in cleanup operations constantly throughout the world.

I might also suggest that precedents exist for this kind of sharing of responsibilities. In Australia, where I recently delivered a major paper on the Exxon Valdez incident, the government buys the necessary equipment and then assigns responsibility for maintenance and operation to port authorities.

At the risk of belaboring the point, we have a thriving, competent and efficient private sector which has done an outstanding job in oil spill and hazardous material cleanup operations.

There is no need to supplant it with government personnel.

We believe federal, state and local governments should assist in developing administrative policies which assure the quality of private sector spill control organizations.

Organizations such as the Marine Spill Response Corporation (MSRC) have an essential role as well.

I believe MSRC, with its resources as a nonprofit trade organization representing oil comapnies, can assist with research and development which is a prohibitive undertaking for commercial enterprises. Indeed, it is too expensive.

I also want to make the point that we support the present system in which the government selects the contractor to clean up oil spills when the offending party refuses to accept responsibility or is financial unable to do so.

We believe this system should not be changed and the decision-making process should not be encumbered by intervention of other third parties.

Finally, I am proud to indicate that my Company, Marine Pollution Control, is providing the State of Michigan with 10,000 feet of oil boom to contain and help clean up oil spills on the Great Lakes.

This new program, announced by Gov. Blanchard at a press conference September 11, is being undertaken in cooperation with Amoco.

The boom will be stored at Amoco terminals in Muskegon, Bay City, Cheboygan and Escanaba and also in the St. Clair River.

They will be available for deployment as the first response in the event of a spill.

This strategic deployment of oil boom will assist us greatly in case of an oil spill emergency and we are proud to initiate this program to help protect the Great Lakes.

As I said, our industry has made substantial contributions in assisting in these disasters, sometimes in very hazardous situations.

And we are prepared to continue to do so---working with government and MSRC and with this committee---with each partner carrying out its responsibilities to assure successful cleanup efforts and that the public interest is served to the best of our abilities.

Again, thank you for the opportunity to participate in this panel and I would be pleased to answer any questions.

STATEMENT OF JANET H. VAIL, RESEARCH ASSOCIATE GRAND VALLEY STATE UNIVERSITY WATER RESOURCES INSTITUTE

BEFORE THE
WATER RESOURCES SUBCOMMITTEE
OF THE
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

September 21, 1990

Grand Haven, Michigan

Mr. Chairman and members of the Subcommittee, thank you for the opportunity to address this committee on behalf of the Grand Valley State University Water Resources Institute (WRI) which is located in nearby Allendale, Michigan. Established in 1986, the Water Resources Institute is dedicated to the development, protection, and improvement of our aquatic resources. Current WRI programs include research involving Lake Michigan and tributary lakes and streams aboard the GVSU research vessel D.J. Angus, groundwater education and research, a regional human and natural resources information system, a pollution prevention/waste reduction program, information dissemination, and community outreach. WRI draws upon the expertise of research associates and the science and engineering faculty at Grand Valley State University to provide an invaluable resource for water issues in west Michigan.

The WRI statement outlines the potential effects of oil spills in the Great Lakes Basin pointing out similarities and differences between marine and freshwater systems, physical and chemical considerations, biological and ecological effects of oil, and research needs.

Similarities between Marine and Freshwater Systems

Much attention has been given to the effects of oil spills on marine environments with disproportionally less research on freshwater systems. However, many of the problems created by spills in marine systems are comparable to those expected in the Great Lakes. The behavior of petroleum is fairly similar in both salt and freshwater systems. The solubility of petroleum compounds is generally greater in freshwater than in saltwater although this difference is not great. Sedimentation to form bottom deposits is similar as is movement of slicks on the surface and formation of mousse-like emulsion from heavy oils.

The physiological effects of petroleum cover a broad range from the cellular to community level, but differences between oil effects in marine and freshwater environments are small. Biodegradation of petroleum compounds by microorganisms occurs in a similar manner in both systems.

Differences between Marine and Freshwater Systems

Some basic differences between marine and freshwater systems include: lesser likelihood of residual oiling of freshwater river bottom sediments; absence of tidal action in freshwater systems as compared to the oceans; differences in species composition in the two systems; small and relatively shallow size of freshwater systems; and use of freshwater for drinking water, industry, and agriculture. The absence of significant tidal action results in reduced shoreline oiling and subsequent broad zones of intertidal oiling that are characteristic of marine petroleum contamination. Freshwater systems such as the Great Lakes lack the diversity of intertidal invertebrates and algae that are found in marine systems. The rather harsh and unstable beach typical of much of the lower Great Lakes shoreline does not support significant populations of sessile invertebrates that are characteristic of marine rocky intertidal zones.

The Great Lakes behave as a relatively closed system. There is an intimate relationship between precipitation, runoff from the land, river and stream flow, groundwater, and the water in the Great Lakes. Unidirectional flow from rivers virtually assures that oil from large uncontained spills in rivers will quickly find its way into the Great Lakes. Residence time of petroleum constituents in the Great Lakes can be from 2.6 years (Lake Erie) to over 190 years (Lake Superior). Nine percent of the US population and twenty-nine percent of Canada's population live in the Great Lakes Basin. About 25 million of these people are dependent upon the Great Lakes for their drinking water and are vulnerable to the lingering effects of a major spill.

Two other differences relevant to the Great Lakes include seasonal presence of ice and great variations in currents, wave heights, and wind directions in a relatively small system. The shores of the Great Lakes become impacted with ice as early as November and ice can linger into April. Recovery of petroleum under ice represents a major challenge. Little is known about the evaporation of hydrocarbons under ice and how the fate of oil under ice differs from open water. Oil can become wedged between the ice and other ice layers formed later which alters the behavior of ice. An example of the behavior of a contaminant in cold weather is illustrated by an accidental discharge of xylene from a gasoline refinery during the winter that resulted in solidification of the xylene in a concentrated form with a very low flash point. A related concern is the rupture of bulk storage tanks during the cold weather that could spill their contents into waterways impacted with ice. In January, 1988, a storage tank in Pittsburgh ruptured and released 3.8 million gallons of contaminants into the Monongahela River.

A lake such as Lake Michigan is influenced greatly by the prevailing weather conditions. It is not atypical to have the wind direction change several times during a day, and the Lake can change from calm to rough in a matter of hours. During the course of a week, the direction of the currents can also change dramatically. Weather systems from the west could rapidly disperse a spill from Wisconsin or Illinois across Lake Michigan to the coast of Michigan.

The total coastline of the Great Lakes is 11,232 miles including connecting channels, mainland, and islands. Industrial and transportation activity in the Great Lakes Basin is robust with about 20% of US and 50% of Canadian manufacturing located along this coast. The question is not whether a spill will happen but how are we going to respond to the spills that are already occurring and will most certainly occur in the future.

Chemical/Physical Properties of Oil

An important aspect of response to an environmental catastrophe is characterization of the spilled or released material. Contamination of the environment by an oil spill involves some uncertainty in that parent crude oil has a complex chemical composition with over 10,000 components having boiling points ranging from 0 C to 600 C. While crude oil is primarily a mixture of aliphatic, alicyclic, and aromatic hydrocarbons, the specific composition of a crude oil varies with its origin. Implications for spill response are that rapid analytical methods (infrared spectroscopy, gas chromatography, and refractometry) need to be available to characterize the chemical composition of the oil and that spills from unknown sources may have a unique fingerprint that will allow them to be identified if analytical equipment is readily accessible.

The fate of the components of oil include: evaporation, dissolution, emulsification, adsorption, and deposition. The lighter aromatic and more toxic components of petroleum are lost within 24 hours following an oil spill leaving heavier, less toxic components. From 30-50% of crude oil and 90-100% of gasoline will evaporate when spilled in water. Little is known about the effect of the interaction of these hydrocarbons with contaminants already in the water column or sediment. Most of the components of petroleum are subject to photooxidation and biodegradation at slow rates. Adsorption of hydrocarbons onto inorganic and organic sediment particles is well documented. Tar ball formation is also a fate of petroleum components. Selection of the proper clean-up technology must take into consideration all of the routes of exposure of petroleum in the environment which include volatilization, surface spreading, sinking, entrainment and dissolution in the water column, horizontal advection and mixing, vertical mixing and settling, and mixing and dissolution from sediments to the water column.

A description of a 20,000 gallon #6 fuel oil spill in Lake Michigan (June 25, 1975) illustrates the ubiquitous behavior of petroleum: "Oil in the harbor varied from a light slick to concentrations ten inches thick", "5,000 to 10,000 gallons had reached the shore", hulls of boats were coated, and beaches were fouled by this spill which could not be contained. The clean-up activity was hampered by fog, waves, motor boat wakes, swimmers, darkness, and numerous operational difficulties such as entangled tow ropes, improper anchors, pleasure boats using the radio communication channel, lack of heavy duty booms, and inadequate manpower. Only about 1,000 gallons of oil were actually removed from the water in this five day effort. Most, if not all, of the elements of oil behavior such as spreading, drifting, emulsification, mousse formation, dispersion, sedimentation, re-suspension from the sediment, and tar ball formation could be found in this spill.

Biological and Ecological Effects of Oil

Currently, a natural resource damage assessment model for freshwater, similar to an existing marine model, is being developed by Applied Sciences Associates. The model is composed of physical fates, biological effects and economic submodels with the final output being a damage assessment for a specific spill event. The framework for the marine model assumes that there is an adequate biological database available and it assesses damage to fish, lower trophic biota, birds, fur seals, fishing/hunting, and public beaches. Losses can be estimated by species category with groupings based on habitat, trophic level, and life stage.

According this model, short-term biological effects include oiling of animals by surface slicks, acute toxicity of dissolved material being ingested by organisms, and spilled material sinking to the bottom killing bottom species. The lighter, more volatile fractions of oils are acutely toxic to most types of organisms. Dissolved components available for uptake by organisms are thought to also be responsible for many acute toxic effects.

Long term effects of oil spills involve lost recruitment of larvae and juveniles killed at the time of the spill, loss of future growth of killed adults, changes in the food web structure, and chronic effects of sub-lethal levels of contaminants. Organisms are extremely vulnerable if a spill occurs during or immediately following reproduction and hatching. Virtually all aquatic organisms have the ability to absorb hydrocarbons or ingest hydrocarbons found in particulate matter. These absorbed hydrocarbons accumulate in tissues high in lipids and can contribute to physiological and reproductive damage due to chronic toxicity. Little information is available on the mutagenicity and carcinogenicity of hydrocarbons in freshwater species.

At the community level, it is difficult to predict rates of recovery and ultimate species composition in a contaminated environment. Opportunistic species can invade the damaged ecosystem preventing restoration of the community. Re-establishment of the former diversity, dominance and abundance of species may never occur.

Biological effects are greatest and last the longest when oil reaches soft bottom sediments, productive shallow waters, or low energy shorelines. This describes the situation found in many areas of the Great Lakes including along the banks of rivers such as the Grand River, as well as tributary lakes such as Spring Lake. The fact that many of these rivers and lakes function as harbors increases both the probability of spills and the complexity of cleanup. Oil can persist for long periods of time in sandy, unconsolidated sediment. A spill in the Grand Haven area, as well as similar environments, could severely impact adjacent wetlands and could lead to anoxic conditions since degradation of oil is an oxygen-consuming process. Rates of oil decomposition may be limited by the paucity of other biologically essential elements. Hence these rates may be relatively slow in the Great Lakes where nutrient levels are low.

Little work has been carried out on the effect of dispersants in fresh water. Formulations suitable for marine spills may be totally unsuitable for freshwater spills. Use of dispersants for spill clean-up will increase the rate at which oil enters the sediment exposing it to more rapid biodegradation, but this results in dramatic decreases in dissolved oxygen producing an anoxic zone above the sediment that is detrimental to benthic invertebrates. The integrity of exposed membranes of freshwater species can be damaged by dispersants and surfactants. Dispersants and dispersant additives such as hydrocarbon solvents and stabilizers may exert chronic and acute or synergistic effects on organisms.

Additionally, uptake of petroleum hydrocarbons by tissues and histological damage in organisms are increased by an oil-dispersant mixture.

Research Needs

Much still needs to be accomplished regarding research on freshwater oil spills. Data gathering is restricted to laboratory studies, controlled field studies, or post-accident studies. Laboratory studies do not represent the natural ecosystem, there are legal problems with the release of oil in field studies, and post-accident studies suffer from insufficient background information and lack of planning. Research topics that warrant attention include:

- a synthesis of available information on the effects of oil on the Great Lakes ecosystem
- the relative acute and chronic toxicity of petroleum components
- studies of adaptations of organisms to oil over long periods of time
- identification of organisms that are indicators of pollution
- baseline studies on the natural flora and fauna of the Great Lakes
- the effects dispersants and surfactants on Great Lakes organisms
- characterization of the behavior of oil under ice
- development of a specific models for the Great Lakes of oil spill behavior under various weather conditions

A recent 1989 book, The Fate and Effects of Oil in Freshwater, has many other suggestions for research as it attempts to draw conclusions from the limited published information on oil in freshwater systems. Freshwater oil spill research is in its infancy and more research is necessary to develop an understanding of the dynamics of oil contamination in freshwater.

Conclusion

A task force sponsored by 14 major oil companies has recently concluded that the petroleum industry had "neither the equipment nor the personnel" to handle a catastrophic tanker spill and "if oil spilled close to a shoreline and if drift of the oil caused by wind and current is onshore, it is unlikely that anyone can prevent shoreline contamination." It is significant to note that leading oil companies have agreed to spend $800 million to staff and equip five teams to respond to a major oil spill anywhere in the United States, but none of these teams will be located in the Great Lakes region. These teams will be housed in five regional response centers in California, Washington, Louisiana, New York-New Jersey, and Florida.

Apparently, the oil companies appear to be far more concerned about marine rather than freshwater spills and have largely ignored the needs of the Great Lakes in spite of the fact that approximately 85% of the Great Lakes spills are oil. Research publications and efforts of the American Petroleum Institute heavily favor ocean concerns. With this in mind, the people of the Great Lakes Basin must look to other sources of support for an oil spill response effort such as that which can be provided by the United States Coast Guard and other branches of the federal government. Indeed, Western Michigan has welcomed the Coast Guard in Grand Haven and expresses its appreciation each year through the Coast Guard Festival. The people of west Michigan care deeply about Lake Michigan and its beaches; this resource deserves to be protected.

The presence of a well trained and well equipped spill response team that has access to specific information about the Great Lakes Basin can greatly decrease the adverse effects of oil spills on the Great Lakes ecosystem. Funding and leadership from the Federal government for spill prevention, response, and research is needed now. It is not prudent to wait until a major spill impacts the largest freshwater system in the world to put into place a strong response system to safeguard the Great Lakes. The lessons learned from the Valdez oil spill should not have to be repeated in the Great Lakes.

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GREAT LAKES
STEELHEADERS
Mr. Zuwerink

House Public Works Subcommittee on Water Resources
Field Hearing - September 21, 1990 - Grand Haven, Michigan

During the past 20 years we have heard a great deal of testimony and documentation regarding the deterioration and devastation of the Great Lakes, much of which is repetition. Yet, it bears repeating as long as the problems remain unresolved.

The five Great Lakes and connecting waters have suffered tremendous setbacks during the past 50 years due to progress-population explosion - municipal and industrial growth. As a result of this progress, the lakes have suffered with pollutants introduced through ground water, tributaries and airborne contributions.

Through concerted efforts by concerned groups and agencies, our Great Lakes waters are once again productive both for fishery habitat and human consumption.

Through the efforts of state, provincial and federal agencies, the Great Lakes fishery has grown to world class. The sport fisheries today generate annual basinwide economic activity of 4.4 billion dollars and sustain some 75,000 jobs. The commercial fisheries generate 270 million dollars in economic activity and 9000 jobs.

The Lake Michigan sport fishery alone has created an impact on the economy as high as 50 million dollars. Angler spending in Ottawa County is nearly 5 million dollars which was the highest of 6 coastal counties surveyed.

The success of the Great Lakes fishery resulted in substantial public and private investments. In 1983, Michigan ranked fourth among the states in total sales of boats and accessories (286 million dollars). Other private investments have been in the Great Lakes charter-boat industry (31.2 million dollars in 1985). That year, 239,000 clients spent an estimated 21 million dollars excluding charter boat fees.

The Great Lakes Fishery Commission, a joint Commission between Canada and the U.S., was formed in the 1950's to re-establish the nearly extinct lake trout populations in the Great Lakes. Today the total budget for the Commission (including Canada's contribution) is 13.9 million dollars. The U.S. share of this program is 9.4 million dollars. These tax dollars are spent in an effort to maintain the lake trout fisheries portion of that 4.4 billion dollars of economic activity.

Our fishery is a fragile resource - highly susceptable to changes in habitat and environment and wholly dependent upon relatively clean water and a healthy and adequate forage base.

Any new introductions by way of oil or chemical spills would have a devastating effect on fish, wildlife and humans. Any major spills could be irreversible. The fruits of our efforts of the past 20 years could be lost.

The problems that we've experience during the past three years with our deteriorating salmon fishery may well be traced to water impurities. We have yet to learn the origin of these losses.

It is common knowledge and belief that the future of our nations' livelihood and existence lies in the area surrounding the Great Lakes Basin. We cannot afford to gamble with this irreplaceable resource.

Plans must be made today to prevent any chemical or oil spills in the Great Lakes Basin. Plans must be made to deal with accidental spills, should they occur.

Congress must act immediately to provide funding and facilities to deal with the prevention and/or accidental spills of oil or other toxic materials.

Testimony by Gordon Zuverink
Holland, Michigan

ADDITIONS TO THE RECORD

TESTIMONY

MS. ANN BOLLIN

WESTERN TOWNSHIPS UTILITIES AUTHORITY

SUBMITTED TO

THE SUBCOMMITTEE ON WATER RESOURCES

COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

U.S. HOUSE OF REPRESENTATIVES

FIELD HEARING ON GREAT LAKES OIL SPILLS

GRAND HAVEN, MICHIGAN

SEPTEMBER 21, 1990

The Western Townships Utilities Authority (WTUA)

My name is Ann Bollin, and I am Executive Director of the Western Townships Utility Authority in Plymouth, Michigan. The Western Townships Utilities Authority (WTUA), incorporated in Canton, Northville and Plymouth Townships, was established to identify an alternative means of providing sanitary sewer services and wastewater treatment for the Townships other than that provided by the Rouge Valley Sewage Disposal System (RVSDS) and the Detroit Water and Sewer Department. The WTUA was established by the Townships to acquire, construct, finance, purchase, own, improve, enlarge, extend and operate a sewage disposal system to meet the existing and future needs of the Townships. The combined population of these three Townships in Southeastern Michigan is just over 90,000 people.

We, the Western Townships Utilities Authority are seeking your support for a unique, innovative and environmentally safe streamflow enhancement project that will impact more than 1.5 million residents in Southeastern Michigan. These residents are unnecessarily exposed to hazardous and unsanitary water conditions on a daily basis. Despite efforts to defuse this ecological time bomb, including the help of literally thousands of volunteers and millions of dollars of local, State and Federal funds, the deplorable conditions of the Rouge River and Belleville Lake have not been significantly improved in over two decades.

Major Concerns Addressed

The project will address several major environmental and public health concerns for the region. First, the Rouge River and the Rouge River Basin drain 467 sqare miles (298,880 acres) of land along 126 miles of waterway, threatening the health, welfare and safety of all who live near it. Moreover, pollution in the Rouge River also threatens the environmental integrity of Lake Erie, into which it ultimately flows. The United States General Accounting Office (GAO) has found that the

> current situation at the Rouge River is so severe that the water quality in each of its 11 subbasins does not meet Michigan's standards for water use in at least 3 of the designated use categories.

In addition, the Rouge suffers from low water levels, making commercial navigation virtually impossible. In addition to compounding the asthetic problems along the River, the low water levels prevent the River basin area from functioning as a recreational area or from providing an industrial and agricultural water supply. Swimming, boating, and coanoeing are prohibited on the Rouge River.

Second, The Michigan Department of Natural Resources (MDNR) has serious concerns regarding the adequacy of the sewerage systems in Southeastern Michigan and the ability of these systems to support continued development within that area. Current capacity deficiencies in some rapid growth areas are creating conditions which jeopardize continued development.

Third, Belleville Lake, an impoundment lake of the Huron River, also has very serious water quality problems. These problems have kept the lake closed for entire recreational seasons and is a cause for great concern among State and local officials and lake users.

Fourth, The Yipsilanti Communities Utilities Authority Treatment Plant, an award winning state-of-the-art facility, is operating at half of its potential capacity because of restrictions on increased treated water flows to the Huron River. By redirecting these treated flows to the Rouge River, capacity can be significantly increased, thereby decreasing user fees.

How the Project Will Work

The basic concept of the proposed streamflow enhancement project is to show that wastewater now flowing into an inland, impoundment lake can be diverted to a slow-flowing, seriously polluted river resulting in a dramatic improvement to the environment and ecology of both water systems. This concept is unique and innovative, since an engineering project of the scale we are proposing has never been attempted by the Army Corps of Engineers in any municipality in the United States. Furthermore, the successful achievement of these goals will provide the framework for similar waterway flow projects in all areas of the country.

Now that I have laid out the concept, I would like to explain in greater detail how this innovative waterway flow project will achieve our goals. First, the most important water resource development aspect of the project is improved streamflow in the Rouge River. This project will redirect the flow of wastewater from townships in western Wayne County to the treatment plant in Ypsilanti. Currently the plant discharges the highly-treated wastewater (effluent) into the Huron River where it then flows into Belleville Lake, an impoundment formed by the French Landing Dam. Because of inadaquate water flows, Belleville Lake detains the effluent, where it causes excessive algae growth, rooted aquatic plants and general stagnation.

To accomplish the project's objective, the clean effluent will be rerouted from the Heron River to the Rouge River, thereby introducing a large volume of highly-treated flows into the Rouge River. The introduction of 58 million gallons per day of highly treated water into the Rouge River system will cleanse the river of pollution and will restore the river to its designated uses. Another benefit from the introduction of large volumes of water into the Rouge will be to create a well-defined river channel. Serious pollution in the Rouge River is due primarily to its low flow condition. At this time the Rouge River has no well-defined river channel because of inadequate continuous flow. The effect of frequent flooding from storm run-offs compounds this problem causing stream meander. This further erodes fragile river banks, fells trees, forms log jams and prevents navigation.

Furthermore, this project has no expected negative effects for the environment because the Rouge River is well-shaded and the highly-treated clean effluent will not support excessive algae growth. The diversion of clean effluent from the Huron River to the Rouge River will result in positive environmental impacts on both of these seriously polluted bodies of water and the communities they serve.

Projected Costs

The proposed project will also positively impact the economy of the region as it improves the environment. Specifically, the increase in tourism and greater overall levels of recreational activity in the area will lead to increased land values, thereby generating additional tax dollars for numerous local communities. This is particularly important for our local communities who rely increasingly upon their tax dollars to fund necessary capital improvements and longer-term infrastructure development, such as this streamflow enhancement demonstration project.

In previous years, the Environmental Protection Agency (EPA) construction grant program has greatly assisted the State of Michigan with 1,234 grants totalling $2.57 billion awarded through May 1987. However, Canton, Northville and Plymouth Townships have received no direct Federal funding to date. Furthermore, the construction grants program is being phased out in favor of State Revolving Loan Funds. These State Revolving Loan Funds will be expected to carry the financing burden for sewage treatment projects. Simply put, the State's loan program will not generate adaquate funds to finance all of the necessary Rouge River and sewage treatment projects.

The total cost of Rouge River projects is estimated at $1.8 billion. Local communities are being asked to provide 60 percent or $1.08 billion over a 20 year period. During the same time period, Federal and State sources combined will contribute $720 million toward these projects.

The $1.08 billion will meet only Michigan's defined critical needs, or projects required to comply with administrative or court orders. Noncritical projects, including Rouge River projects and combined sewer overflow (CSO) projects, which are needed throughout the state, will total another $5.6 billion. The competition for low interest loans among Rouge River and CSO projects is expected to be very intense. In addition, the loan program being proposed by the MDNR would limit funding for any project in a given year to no more than 30 percent of the funds available to the State in that year. Such a restriction would limit the amount of funds that could be directed to Rouge River projects.

The support we request from the Federal government represents a small, but significant, share of the total costs of this demonstration project. The three WTUA townships (Canton, Northville and Plymouth) are committed to providing 78 percent (or $68,571,000) of the estimated project costs. On average, the federal share for water projects of this nature would be as high as 50 percent of the total project cost. The WTUA is requesting a federal committment of only 22 percent, or $19,612,000. This is lower than any previous Federal cost share portion for a similar water project!

Environmental, Ecological, and Economic Benefits

I would like to take the remaining minutes to highlight the important environmental, ecological, and economic benefits of the Rouge River streamflow enhancement project for the State of Michigan and for the Nation.

I. Environomental Benefits:

1. The Rouge River Environmental Enhancement Streamflow Demonstration Project will immediately facilitate clean up of one this country's most polluted rivers and improve the natural hydraulics of the surrounding river systems.
2. The health and safety of millions of Michigan citizens who live in the immediate basin area and the Lake Erie region, will no longer be seriously threatened.
3. The redirection of effluent to the Rouge River will also reduce combined sewer overflow (CSO) problems in the broad geographic area encompassed by this project.
4. The Rouge River Environmental Enhancement Streamflow Demonstration Project will provide a model solution for other areas of the nation that have impoundment lakes and variable river flows which cause problems similar to problems at the Rouge River and Belleville Lake.

II. Ecological Benefits:

1. Improving the water quality and flow conditions of the Rouge River will greatly enhance human, wildlife and plant development in the river basin area. Cleaner rivers and lakes will result in expanded uses of limited freshwater supplies for fisheries, boating, swimming and general recreational use. The degraded images of the Rouge River and Belleville Lake communities will also be repaired once the pollution eye sores of these waterways are removed.

2. This project will have a positive effect on two major waterways that ultimately flow into the lower Great Lakes, benefiting the Great Lake States of Michigan, Ohio, Pennsylvania, New York and the Province of Ontario, Canada.

III. Economic Benefits:

1. Increased tourism will generate additional revenue through the restoration of the Rouge River and Belleville Lake recreation sites.
2. Increased land values will result in a higher tax base for the communities in southeastern Michigan.
3. Increased usage of an existing high-quality treatment plant will allow a reduction of the per unit treatment cost for all Ypsilanti Communities Utility Authority customers. Operating and maintenance costs alone will be reduced by 25% to 30%.
4. New temporary jobs will be created during the planning, engineering, construction, operation and maintenance phases of the project. Additional permanent jobs will follow as a result of ongoing plant operations.
5. Demonstrable cost reductions will be replicated by other communities that are or will be engaged in similar environmental clean-up activities.

Conclusion

In conclusion, the need for solutions to our monumental water pollution problems has been well documented. No area of the country is immune from the ill effects of an unhealthy environment. This project, and the many projects that could follow, will represent a significant opportunity to address the concerns we now face and the concerns that future generations will also share. This streamflow demonstration project sets forth a cost effective, environmentally enhancing alternative for the use of taxpayer dollars to address national clean water and environmental concerns. Thank you for your time and I will be happy to answer any questions you may have.

County of Ottawa
Emergency Services

172 Manley Avenue
Holland, MI 49424

(616) 396-4823

September 20, 1990

STATEMENT TO THE WATER RESOURCES SUBCOMMITTEE
HOUSE PUBLIC WORKS AND TRANSPORTATION COMMITTEE

Thank you for allowing me to comment on oil spill clean-up on the Great Lakes. Current local response capabilities in the Ottawa County area shared among area fire departments include boom equipment strategically placed along the shoreline down stream from the main terminals of at least one major petroleum storage facility on the Grand River. While meant to reduce the consequences of spills under a particular situation, this boom equipment may be capable of containing a leak from a ship or barge. The County Emergency Services agency has only been briefed of the boom equipment and escorted by Grand Haven Fire Department to inspect it. No plans or procedures are known to be developed by the Grand Haven area for other use of this specific equipment, although it is generally accepted that Coast Guard resources based locally would be available for containment.

Concerning augmentation of resources by creation of a Great Lakes Spill Response Center, it is felt by this office that such a facility could be of great help if its resources are immediately available near the incident site. Regrettable, it must be said that if several hours or more elapse between occurrance and the use of resources from a distantly located center, the consequences of a release, either environmentally or otherwise, will be fully realized before adequate means arrive to contain the hazard.

This is not to argue against the value of a centralized facility, but rather to support a need for resources to be as transportable as possible, to expedite response time; several options now exist for airlifting boom equipment and absorbents by helicopter or aircraft, which can be directly dropped to waiting first response teams; support should be given to development of other air-portable equipment such as skimmers, again to expedite response time to the scene.

To conclude, improved emergency management planning within current guidelines specified by the Federal Emergency Management Agency should be supported in appropriate legislation. Also, in light if the "JUPITER" incident, there should be a review of hazards analyses made by local and county emergency management coordinators especially where water terminals exist to support improved levels of preparedness and response actions.

Respectfully,

THOMAS L. CALDWELL, EMERGENCY SERVICES DIRECTOR, OTTAWA COUNTY

STATEMENT TO THE HOUSE COMMITTEE ON
PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES

Friday, September 21, 1990
Grand Haven, Michigan

Submitted by the Honorable Richard M. Daley
Mayor of the City of Chicago

We appreciate the opportunity to submit a statement for the record regarding oil spill containment efforts in Chicago and the Port of Chicago. In the Great Lakes, Chicago is the center for the movement of dangerous cargoes. Eight-five percent of all dangerous cargoes moving through the Great Lakes are handled in the Port of Chicago. Clearly, we have a deep interest in the continued safety of Chicago and the southern Lake Michigan coastline.

Along with the Illinois International Port District, we have been working on oil spill containment contingency planning since the tragedy of the Exxon Valdez. After the tragedy, it was estimated that, if two typical vessels now serving the Calumet Harbor were to collide, there could be a 750,000 gallon spill of petroleum-based products in the area. Our concern about local ability to contain such a spill prompted discussion and planning with the U.S. Coast Guard's Marine Safety Office.

We now proudly report that Chicago is the only Great Lakes port city that has held two field exercises to test its containment capability. As a result of our May 1990 exercise, the Chicago oil spill containment contingency plan was updated and actually put into action on behalf of our neighbors in Indiana when a 5,000 gallon oil spill closed Indiana Harbor in July. Our Metropolitan Water Reclamation District transcended its jurisdictional boundaries to assist with equipment and skilled personnel when Indiana needed help.

We are deeply concerned about catastrophic spills which exceed our containment ability. Currently, these spills can only be handled by equipment owned and operated by the U.S. Coast Guard Atlantic Strike Team in Mobile, Alabama. During a deployment exercise this July, it took nearly twelve hours to fly in this equipment from Mobile and deploy it on the docks of the Illinois International Port District. I am sure you will agree, Mr. Chairman, that the Great Lakes and Chicago cannot wait this long during a spill emergency.

Each moment that an oil spill is not contained can have a devastating impact on our coastline. Lake Michigan is a relatively closed water environment which retains hazardous material longer than rivers or seas with greater natural flow. This means that an oil spill would seriously jeopardize the safety of Lake Michigan, the primary source of drinking water for eight million residents within the Greater Chicago area.

It is imperative that Coast Guard Open Water Containment and Recovery equipment be purchased for the Great Lakes. We believe that this equipment should be maintained in Chicago for Great Lakes deployment because:

- Chicago faces the greatest risk from movement of dangerous cargo.
- Chicago has qualified personnel and the required airfield for equipment access.
- Chicago's location offers the best logistical position for serving the entire Great Lakes area.

As the center for movement of dangerous liquid cargo in the Great Lakes, Chicago will remain active in oil spill containment planning and prevention. But, we need help. We need Coast Guard oil spill containment equipment in our area. We need increased staffing in our Coast Guard Marine Safety Office. We need more inspection officers and personnel to handle the tremendous responsibility of overseeing more than 5,300 transfers of dangerous cargo each year.

Mr. Chairman, we must not wait for a bad spill to occur to take action. Too much is at stake. There is a tanker now burning near the Port of Detroit, a tanker that has sailed through the Port of Chicago in the past. The Great Lakes must have proper containment equipment now. Thank you very much.

STATEMENT OF OWEN DAVIS
INTERCONNECTIONS, GRAND HAVEN, MICHIGAN

HEARING ON OIL SPILLS IN THE GREAT LAKES
BEFORE THE
WATER RESOURCES SUBCOMMITTEE
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

SEPTEMBER 21, 1990
GRAND HAVEN, MICHIGAN

In making plans regarding Lake Michigan, it should always be kept in mind that this system is unique among the Lakes. All the other Lakes are simply wide places in the St. Lawrence River flushing them into the Atlantic Ocean. Lake Michigan, on the other hand, is a different matter altogether. Input from tributaries arrives in the Lake and stays there for a very long time. Outward current through the Straits of Mackinac is extremely light and from time to time is completely reversed. This is not generally understood, so it should be emphasized. Plans suitable for the other Lakes may be entirely unsuitable when applied to Lake Michigan.

STATEMENT TO THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION
SUBCOMMITTEE ON WATER RESOURCES

Grand Haven, Michigan
Friday, September 21, 1990
Submitted by Anthony G. Ianello, Executive Director
Illinois International Port District
Chicago, Illinois

Mr. Chairman, we appreciate this opportunity to provide a background on the work in which the Illinois International Port District (IIPD) has been involved regarding oil spill contingency planning and to provide insights from our experience with oil spill containment exercises. I have brought a detailed report on those two recent exercises which we would like to have included for the record. However, I have a shorter statement to offer for the hearing today.

First, let me say that we applaud your efforts to establish a Great Lakes emergency response capability to deal with accidental spills of environmentally hazardous materials. It is a concept we support, wholeheartedly. There should be Coast Guard Strike Team Open Water Oil Containment and Recovery Systems in the Great Lakes, and as we will explain, we believe that they should be maintained in Chicago.

The IIPD is a municipal corporation with responsibility to manage the properties which it owns in the City of Chicago. Further duties, rights and powers of the District are to establish and enforce regulations within 40 feet of any navigable waters within the corporate city limits of Chicago.

The U.S. Coast Guard Marine Safety Offices, located in various ports around the country including the Great Lakes, have the responsibility for oversight of the waterborne movement and transfer of liquid bulk products. However, as the port authority, we take seriously our role in promoting the safe and efficient movement of cargo within the Port of Chicago and the Great Lakes community.

We have within our jurisdiction an 800,000 barrel capacity liquid bulk terminal and there is a great deal of lightering taking place in the Port of Chicago jurisdiction, in particular, Calumet Harbor. We work closely with the Chicago Marine Safety Office, other governmental agencies and entities within the private sector which may directly or indirectly be involved in spill containment.

The Port of Chicago, as outlined under the jurisdiction of the Coast Guard, Chicago Captain of the Port, is not only the center for waterborne liquid movements in southern Lake Michigan, it is the center for the movement of dangerous cargoes in the entire Great Lakes. Eighty-five percent of all liquid dangerous cargoes moving through the Great Lakes are handled in Chicago. Fifty-three-hundred (5300) transfers of dangerous cargoes take place in the Port of Chicago area each year. This is more than all the other Great Lakes ports combined.

After the Exxon Valdez incident, we were naturally concerned about our capabilities for spill containment and clean-up. Particularly after the U.S. Coast Guard acknowledged in GAO

RECD-90-83 that it is not prepared to respond to major oil spills over 100,000 gallons. The Chicago Marine Safety Office has estimated that a major catastrophic spill in Calumet Harbor through the collision of two tanker-type vessels could conceivably result in a spill of 750,000 gallons.

Keep in mind that the Chicago Marine Safety Office has 100 miles of inland waterway over which they have jurisdiction, as well as, almost 100 miles of Lake Michigan shoreline. The inland river system is an important navigation and economic link to the Great Lakes and should not be ignored when assessing liquid bulk movements.

After the Exxon Valdez, we at the Port District met with the Chicago Marine Safety Office and found that while there was an oil spill contingency plan, it needed to be updated. MSO Chicago received direction to do so but it was evident that proper field exercises had to be held in order to ascertain where our vulnerabilities were.

We learned a few things in this process. One was that the U.S. Coast Guard Marine Safety Office in Washington expects MSO's around the country to be able to handle spills up to 50,000 gallons by themselves, without outside help. Unfortunately, Marine Safety Offices have not been given any equipment to do so. Additionally, there is no allocation source by which money is reserved for field exercises for U.S. Coast Guard contingency planning. Given that MSO's will have to rely on the private sector to assist in the clean-up of moderate-sized spills, it would seem that field exercises with local clean-up companies is imperative.

Despite hurdles for clean-up, the Chicago Marine Safety Office and the Illinois International Port co-sponsored a field exercise on May 21, 1990. Funding for the exercise came directly from the private sector. Assistance was also given by the Chicago Water Reclamation District, the southern Lake Michigan Coast Guard rescue stations, and those private sector companies which currently operate liquid bulk vessels in the area and/or own shoreside facilities.

The overall coordination was held with the Chicago Marine Safety Office which, incidentally, was handled in a professional and expert manner. We commend Captain Larry Balok and his people for their tremendous work. Additionally, excellent assistance was provided by the Calumet Harbor Rescue Station and other Coast Guard Rescue Station personnel around Lake Michigan.

In addition to the May 21st field exercise, the Marine Safety Office in Chicago was able to arrange a mobilization of the Atlantic Strike Team containment system from Mobile, Alabama to the Port's Iroquois Landing Lakefront Terminus on July 24, 1990. As a result, Chicago is the only Great Lakes port to have successfully held a field exercise to address spills under 50,000 gallons as well as over 50,000 gallons.

In summary, we have five main recommendations to make from our experiences. Detailed recommendations from the actual exercises having to do with equipment, procedure, etc. are included in the more detailed report.

1. First, Marine Safety Offices must update their oil spill contingency plans if they have not yet done so. Since MSO's do not

have their own equipment and will call upon the private sector, this is even more imperative. A plan forces an accurate assessment of what is available. We commend the Chicago Marine Safety Office for their exceptional attention to this matter.

2. Secondly, funds must be made available to support oil spill response exercises. Currently, the U.S. Coast Guard cannot fund oil pollution response drills from either the 311 K fund or the CERCLA fund. Funding for major oil spill response (which in the Great Lakes is considered anything over 10,000 gallons) is necessary to maintain the readiness of local response teams in the National Contingency Plan.

3. Support must be given to the U.S. Coast Guard to train and support additional inspection officers for each and every Marine Safety Office. As we stated earlier, Chicago handles 85% of all dangerous materials in the Great Lakes. Yet, our Marine Safety Office is given approximately 1.5 inspection officers. More personnel are needed in the field to prevent accidents from occurring in the first place.

4. Field exercises should be required by private sector clean-up companies to determine the effectiveness of their equipment for use in the specific environment in order to get Coast Guard approval for contracts. This may be in conjunction with a formally organized Coast Guard exercise, but it should be done. The clean-up company that volunteered its time, money, personnel and equipment to the Chicago field exercise did a terrific job.

We know that this company learned that equipment made for ocean use may not always be sufficient for use in Lake Michigan. Fittings snapped, tows failed, and the boats used were far too small for the short-hard chop of our Lake waters. Additionally, it was found that only the large ocean, 36 inch boom with the 24 inch skirt was sufficient to handle containment on Lake Michigan. Anything less should be reserved for calm, protected harbors.

And finally,

5. Oil spill containment systems similar to those operated by the Atlantic Strike Team in Mobile, Alabama should be kept in the Great Lakes, specifically in Chicago. Response time to Chicago's docks from Mobile was approximately 12 hours with comprehensive advance planning. The Lake Michigan environment is far too volatile for this kind of delay. We feel that the Coast Guard Open Water Oil Containment and Recovery Systems should be maintained at the U.S. Air Force Reserve 928th Tactical Reserve Air Group at O'Hare field. It is an appropriate location for government equipment and one where the special "K" cars currently exist for movement of the equipment. It is also readily deployable to the Port of Chicago where 85% of all of these materials are handled in the Great Lakes. It is also an excellent location logistically where rapid deployment to other parts of the Great Lakes or the entire country can be made by Coast Guard C130's or C140's. This is not an issue of politics, we have the need, the experience, and the capabilities.

FIELD HEARING ON GREAT LAKES OIL SPILLS

STATEMENT OF G.R. MARCELLETI BEFORE THE
SUBCOMMITTEE ON WATER RESOURCES
HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION

SEPTEMBER 21, 1990

GRAND HAVEN, MICHIGAN

(G.R. Marcelletti. Paw Paw Businessman of 40 years, active in community affairs, past President of Paw Paw chamber of Commerce, active in lodges, Van Buren County Court House restoration, member of W.M.E.A.C.)

I was aroused to great concern several years ago, when I read in the Kalamazoo Gazette the "enclosed" news article on oil spill, read, what would happen, on Great Lakes. It could happen, it did happen, yes, the Valdez. Yes it could as easily have been on the Great Lakes! My concerns were justified! Imagine if you possibly can, the consequences of that spill on the Great Lakes, not just, only, Great bodies of water, but often, and rightly called, The crown jewels of the Earth. Their great beauty which can be enjoyed by so many.

Their attraction to tourists, for fishing, sailing, drinking, etc. Their great utility and valve, is brought into focus, when we look at Chicago, Milwaukee, Buffalo, Detroit, Cleveland, and many, many other cities, which would not be what they are, if it were not for the G.L. And the seven states that border the Great Lakes, truly, the whole of the midwest the "Heart of America" must give due credit to the Great Lakes, for their growth and well being. The friendship, good relations, growth, tourism, commerce, etc. Between the U.S. and Canada, which we enjoy, and is most important, one might say, vital, to the well being, and security of the North American Continent, would be lacking if not for the Great Lakes.

An Exxon type of oil spill could possibly destroy the Great Lakes as we have and know them, "190 years for Lake Superior to come back." The cities, the border states, the whole of the Midwest, the center of the U.S., could they be compared to wasteland, figuratively, and economically. Can we envision the U.S. just an East Coast, and a West Coast nation very little or nothing in the middle. Disasters such as this can happen; they have happened. We now can appreciate the gravity of such a possibility. It could even threaten our national security!

It has been said an ounce of preventative is worth a pound of cure. On the subject, we are concerned with, I believe an ounce is worth a million pounds. I believe preventative measures are a must. A program to do this. First, put guidelines, safety requirements, for ships, shipping loans, docks, and other related factors, "safety requirements", cover all ships, from all nations coming into our waters.

Then I would further propose that when great lakes' ships come into our waters, pass inspection, qualify to sail, they are required to post bond of x number of dollars, amount based on size of ship and cargo, before sailing to destination and delivery!, bond money returned to ship, after safe passage, but retaining a portion of perhaps 1/2 % of bond amount, to be used as a fund by the coast Guard; clean up crews,! If ever there is a spill, sort of a safety security therefore we could afford and maintain clean up crews.

We know with the best safety measures, sooner or later conditions beyond our control, storm's accidents, sabotage, lightning could cause a spill, surely to protect, save this nation, as we know it now, is not too much to ask. Truly, we owe this effort to our children, to our future generations! We must show responsibility now. Take action now. Complacency is out.

TESTIMONY BEFORE
THE SUBCOMMITTEE ON WATER RESOURCES
FIELD HEARING ON
OIL SPILL RESPONSE IN THE GREAT LAKES
SCHEDULED FOR
FRIDAY, SEPTEMBER 21, 1990
GRAND HAVEN, MICHIGAN
BY
NICHOLAS J. MELAS, PRESIDENT, BOARD OF COMMISSIONERS
METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

On June 21, 1990, the Board of Commissioners of the Metropolitan Water Reclamation District of Greater Chicago enacted a resolution calling upon and urging the United States Congress to commence hearings for the purpose of investigating the transportation of oils, toxic substances, and other hazardous materials on Lake Michigan and throughout the Great Lakes.

The resolution recalls the devastation to the environment caused by the Exxon Valdez and Mega Borg supertanker accidents which have heightened public awareness and concern over oil and toxic chemical spills in the nation's waters. Also, that Lake Michigan is the premier source of drinking water for more than eight (8) million residents within the Greater Chicago Area and that the District has the responsibility for protecting the waters of Lake Michigan. In this pursuit, the District has enacted laws to protect Lake Michigan and has successfully enjoined violators.

The importance of protecting the waters of Lake Michigan and that of the other Great Lakes can not be overstressed. It is important for the public to be aware of the extent of the transport of oils, toxic substances and other hazardous materials on the Great Lakes. This information is also important to identify potential spill episodes and the related risks in order to prevent catastrophic destruction of the water supplies of metropolitan areas and of the ecosystem of the Lakes.

The resolution has elicited a groundswell of support. Concerned organizations and public officials such as the Illinois Chapter of the Sierra Club, the East Michigan Environmental Action Council, the Lake Michigan Federation, Attorney General of the State of Illinois, Neil Hartigan, the Northeastern Illinois Planning Commission, Friends of the Chicago River, and others, gave testimony at the Board Meeting of June 21, 1990.

Some of the more salient points cited by those who attended the meeting are:

1. The consequences of a major spill would be great, especially in the lower basin of Lake Michigan, where the time for water change is nearly 100 years. Moreover, many of the 14 million people living adjacent to the lower basin depend on Lake Michigan for drinking water. In addition, many thousands of these people also depend on the Lake as a source of food, employment, or recreational use.
2. Since 1982, the National Response Research Center has received and documented nearly 6,000 oil and chemical spills into the waters of Indiana, Illinois, Michigan and Wisconsin, and that these are only the reported spills.
3. Currently the nearest Coast Guard Response Team is located in Mobile, Alabama, so that in time of greatest need immediately following any spill, we would be forced to rely on the uncertain availability of local private contractors. The Great Lakes need at least one fully-equipped spill response station with trained personnel.

4. There is an immediate need for additional trained vessel inspectors. The United States Coast Guard has manpower to board only 5% of the ships traversing the Lake each year.
5. That we should emphasize the need for more research to develop more effective cleanup equipment.
6. That we should emphasize the need for preventive measures on all levels: research, regulation and education.
7. Types of containers that are used for explosive, poisonous, flammable, corrosive and other hazardous materials should have minimum safety requirements to prevent serious quantities of chemical spillage.

As stated in the resolution, it has been the mission of the Water Reclamation District to protect Lake Michigan waters from pollution. In the past 100 years the citizens of the Chicagoland Area have paid a high price to protect Lake Michigan from pollution. We have reversed rivers, built some of the largest pollution control facilities in the world, and enacted laws which prohibit the discharge of waste of any kind to Lake Michigan.

It is time once again for dramatic action to protect the waters of Lake Michigan. Given the fragile nature of the ecosystems of the Great Lakes, the emphasis must be upon prevention of major toxic spills, rather than remedial action after an accident. History has shown that no matter how good intentions are, that accidents happen. It is imperative to take the strongest possible measures to prevent "accidental" spills from occurring in Lake

Michigan or any of the other Great Lakes upon which millions of people depend for their water supply.

As a minimum, legislation should require than any vessel entering the Great Lakes with a cargo of chemicals, oils, or any other hazardous products, be of double hull construction. However, to be fail-safe concerning the Lakes, such products should be transported overland.

Strong preventative measures are needed because it would be difficult, if not impossible, to protect public health once oil or other chemical products are spilled in any significant amount into the drinking water supplies.

West Michigan
Environmental
Action Council

1432 Wealthy St.
Grand Rapids, Michigan
49506
616 451 3051

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Michigan Environmental Protection Act 1970

Inland Lakes and Streams Act 1972

Sand Dune Protection and Management Act 1976

Michigan Bottle Bill 1976

Solid Waste Management Act 1978

Wetland Protection Act 1979

Michigan Used Motor Oil Recycling Program 1979

Hazardous Waste Management Act 1979

Pigeon River Country State Forest Oil Drilling Protections 1980

Surface and Underground Mine Reclamation Act 1982

Great Lakes Oil Drilling Ban 1982

Peat Mining Act 1984

Chlordane Ban 1987

Statewide Combined Sewer Overflow Policy 1988

Michigan Non Point Source Water Pollution Management Strategy 1988

Sand Dune Protection Acts 1989

Recycled Paper

Statement of the
West Michigan Environmental Action Council

Subcommittee on Water Resources
Congressional Field Hearing
on the
Oil Spill Prevention and Response Bill
September 21, 1990

The West Michigan Environmental Action Council appreciates the opportunity to submit our statement on the Oil Spill Prevention and Response Bill to the House Subcommittee on Water Resources.

The focus of today's hearing is on the response provisions of this bill and the criteria necessary for siting a regional team in the Great Lakes to plan for, and respond to, oil spills. Obviously, siting decisions must not be political, but should be based on fact, good science, the ability to respond quickly to all areas in the Great Lakes, and risks based on actual tanker traffic patterns.

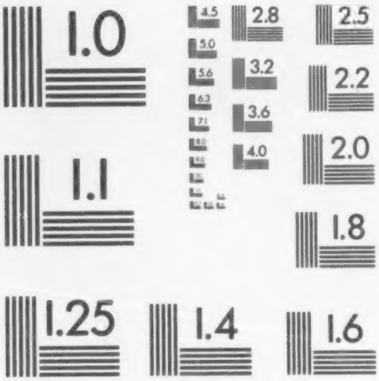
However, being adequately prepared to respond to disasters is just one side of the issue, prevention of such disasters must remain a critical focus for Congress. The prevention provisions in this legislation range from requiring physical improvements in tankers (e.g. double hulls) to new standards for pilots and crews (e.g. limiting crew hours). Albeit important , these provisions assume that we will continue to ship oil over vast distances on fragile waters--always risky business. We believe the best means to prevent oil spills is to eliminate the risk entirely by eliminating the transport of oil on the Great Lakes.

Our country is faced with an ongoing oil crisis, both in terms of the environmental degradation caused by fossil fuel use and the political/economic terrorism of oil overdependence. Prevention of oil spills on the Great Lakes is directly linked to the need for a national energy policy that commits us to energy conservation, the development of sustainable alternatives, and with that, environmentally sound transportation systems.

There is much that can be done to reduce our oil dependency and thereby reduce the need for emergency oil spill response teams on the Great Lakes. We urge Congressman Upton, this Subcommittee, and Congress to aggressively pursue an energy policy that emphasizes conservation and sustainable alternatives as our *best response* to preventing oil spills.

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)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(716) 265-1600

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